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ABSTRACT

Data processing was introduced to public libraries in Hawaii in 1973 with a feasibility study which outlined the candidate areas for automation. Since then, the Office of Library Services has automated the order procedures for one of the largest book processing centers for public libraries in the country; created one of the first COM (computer-output-microfilm) catalogs to be produced; converted the manual catalog to machine readable form including records which go back to the beginning of the public library system; and undertaken the installation of an online circulation system. This paper reviews the major accomplishments and presents plans for the future in each of the following areas: acquisitions, catalog, serials, circulation, Hawaiiana, nonbook materials, management information systems, reference, computer literacy, library for the blind and physically handicapped, and office management. Related flowcharts, implementation schedules, and circulation statistics are included. (THC)

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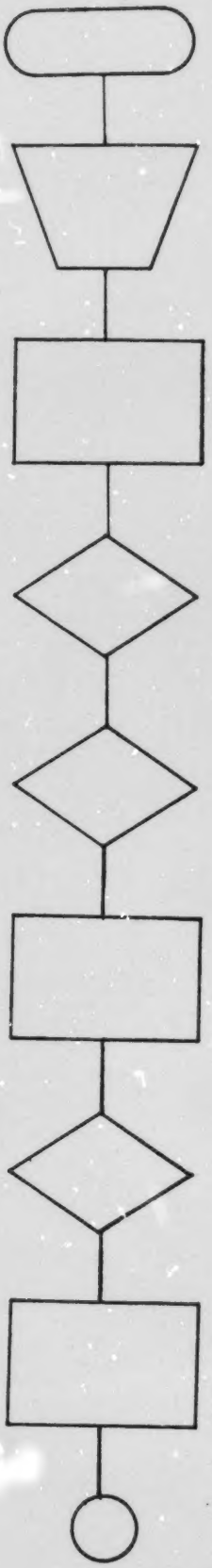

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HAWAII

DEPARTMENT OF EDUCATION

OFFICE OF LIBRARY SERVICES

PUBLIC LIBRARY AUTOMATION REPORT: 1984

July, 1984

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PREFACE

Data processing was introduced to public libraries in Hawaii with a feasibility study in 1973 which outlined the candidate areas for automation. Since then, the Office of Library Services has: 1) automated the order procedures for one of the largest book processing centers for public libraries in the nation; 2) created one of the first COM catalogs to be produced; 3) converted the manual catalog to machine readable form including records which go back to the beginning of the public library system; and 4) undertook the installation of an online circulation system.

This paper reviews the major accomplishments and presents plans for the future.

This report was written by Masae Gotanda, Head, Research and Evaluation Services who has served as Project Manager for all automation activities in the Office of Library Services.

The success of the automated systems in the public libraries is due to the support and dedicated work put into this project by all of the employees of the Office of Library Services. The following people were instrumental in the installation of the circulation module: Robert Gibbons, Systems Analyst who manages all hardware and software for all of the computer systems; Jo Ann Tanouye, Librarian, who directs the conversion of the branch libraries; Linda Guerra, Automation Trainer; Kim Nakano,

Automation Trainer; Alan Nakamoto, Audio-visual Technician, who installs and maintains terminals; and Takashi Akimoto, Head, Centralized Processing Center.

The installation of the circulation system was a joint effort between a number of departments. Carl Tokunaga, Facilities Specialist, Department of Budget and Finance, designed the computer room, directed the electrical renovations in order to accommodate terminals in the libraries, and trained the audio-visual technician to install terminals. Takeo Inokuchi, Telecommunications Specialist, Department of Accounting and General Services, wrote the bid specifications for the first increment of modems and multiplexors used in the Windward area. The advice and counsel given by the Department and Budget and Finance, Electronic Data Processing Division, guided the progress of the circulation system. Deputy Attorney General Russell Suzuki provided legal counsel for negotiations with the circulation vendor. The Office of Library Services, therefore, acknowledges with gratitude the work done for this project by the Department of Budget and Finance, Electronic Data Processing Division; The Department of Accounting and General Services, Telecommunications Branch and the Department of the Attorney General.

Bartholomew A. Kane
State Librarian

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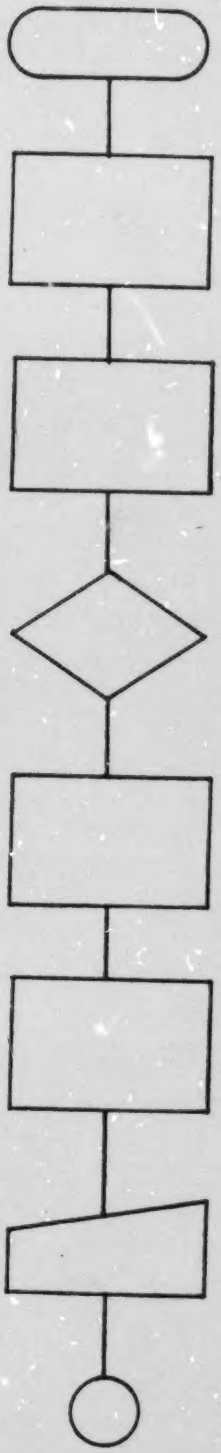


SUMMARY

I. SUMMARY

Statement of the Problem

The Department of Education, Office of Library Services, reviewed its programs and services during the decision years of 1973-75 and decided to automate its major operations in order to utilize the available resources as efficiently as possible in order to continue to provide statewide library services. The following areas were identified as candidates for automation:

1. Acquisitions
2. Catalog
3. Serials
4. Circulation
5. Hawaiiana
6. Nonbook materials

In order to bring Hawaii's libraries in line with national trends and to utilize the latest technological developments, the following areas are being added:

7. Management information
8. Reference
9. Computer literacy
10. Library for the Blind and Physically Handicapped
11. Office management

Accomplishments

The public libraries have applied the use of technology and have succeeded in:

1. Acquisitions

   BIBLIOS HAWAII, a batch order system run on the Department of Budget and Finance, Electronic Data Processing Division's equipment orders, accounts, and processes books for 48 public libraries and 231 public school libraries. This module has been in operation since 1976.

2. Catalog

   BIBLIOS HAWAII produces a COM (Computer-Output-Microfilm) Catalog which has made it possible for all of the people of the State, regardless of place of residence, to access all titles in the public library system.

3. Serials

   The public libraries do not purchase long lists of periodicals as do the academic libraries. Serial titles can be included in the order system, BIBLIOS HAWAII and in the circulation system, ULISYS. However, neither has a serials check-in and claims system. This module will wait for a future time.

4. Circulation

   In 1982, the public libraries purchased an online circulation system from Universal Library Systems, Vancouver, Canada, (ULISYS). As of June 1984, there are 19 public libraries operating on the online circulation system. The programs operate on a mini-computer, a VAX 11/780 manufactured by the Digital Equipment Company (DEC), hereafter referred to in this paper as the VAX.

5. Hawaiiana

Universal Library System was charged with developing an online indexing module for the index to the Honolulu Star Bulletin and the Honolulu Advertiser. The index is now operational, is in test, and can accommodate up to 100 newspapers and periodicals.

6. Nonbook materials

Nonbook materials are listed briefly and included in the ULISYS circulation system.

Plans

During the next four years, the public libraries intend to use technology to provide added services in the following operations:

1. Acquisitions

The minicomputer purchased for the online circulation system will be used for an online order list system for public libraries. Order procedures for schools will be updated but will basically remain manual until widespread computer resources can be found for the schools.

2. Catalog

Programs now in the automated circulation system are available for use as an online public access catalog. Plans are to disseminate bibliographic information as well as book availability information through terminals rather than the present microfilm catalog, thereby giving library patrons current book status.

3. Circulation

The online circulation system now installed in 19 Oahu libraries will be continued to the neighbor islands. The project intends to install the circulation module

in Kauai in the Fall of 1984 and will move on to Maui and Hawaii in 1985.

4. Management information systems

The Office Library Services expects to research a comprehensive financial, personnel and management decision oriented system to run on the VAX. Research is being conducted using a microcomputer at the present time.

5. Reference

The use of computers for storing information has lead to the creation of commercially owned databases that can be accessed for a fee. These databases add immeasurably to a library's ability to provide efficient, in-depth, accurate reference services as well as microfiche copies of documents for nominal prices. The Office of Library Services intends to provide this valuable service on a statewide basis using microcomputers purchased for a computer literacy program.

6. Computer literacy

Libraries across the nation are engaged in computer literacy programs. In this information age when knowledge of new technologies is essential, the public libraries must provide resources that will allow for learning this new tool on a free and equal basis by the general public.

7. Library for the Blind and Physically Handicapped

The National Library Service is embarking on a program to network the regional libraries providing services to the blind and physically handicapped. The federal project will provide software for the control of circulation, inventory and for communications with the national body as well as with other libraries in the same program. Hawaii's Library for the Blind and Physically Handicapped serves not only the State but the Pacific region and is a priceless resource for the handicapped. The Office of Library Services intends to

purchase hardware and use its technical personnel to install the programs for the Library for the Blind and Physically Handicapped as soon as possible.

2. Office management

The administrative offices of the Library System are using the VAX for communications and for writing and disseminating internal memos. The plans call for use of the VAX for word processing, for graphics and file management through a computer that is installed for a variety of purposes.

Costs

The Office of Library Services will use a combination of federal and state funds to fund the development of the automated systems. The costs cited here are estimates and will be detailed and justified in the budget requests.

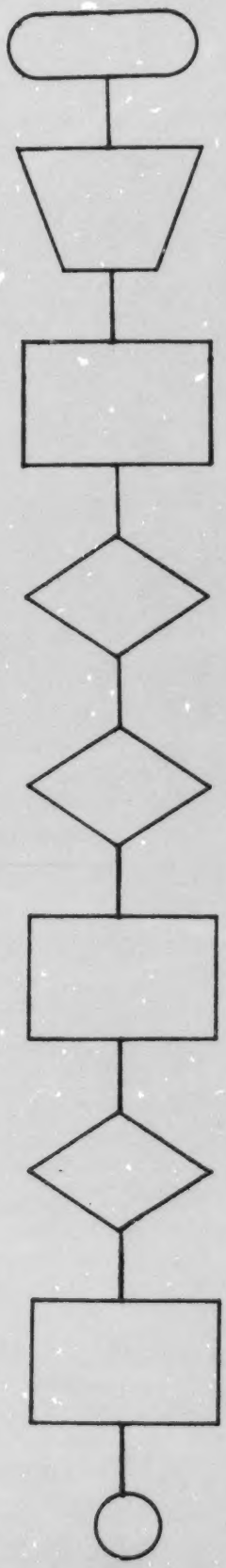
Acquisitions	
1984/85	$ 45,000
Catalog	
1985/86	$499,000
1986/87	331,250
1987/88	331,250
Circulation	
1984/85	408,700
1985/86	253,700
1986/87	245,000
1987/88	245,000
1988/89	245,000

Computer literacy	
1984/85	$ 15,880
1985/86	137,708
1986/87	449,120
1987/88	362,940
Library of the Blind and Physically Handicapped	
1984/85	10,000
1985/86	10,000
Office management	
1984/85	4,500
1985/86	9,000

Conclusions

Fig. 1 shows the libraries in the Office of Library Services. Fig. 2 outlines the automation plans for the public libraries showing all of the modules in operation or under reserach, development or installation. Programs and services produced by the Department of Budget & Finance, Electronic Data Processing Division computer through BIBLIOS HAWAII is shown in Fig. 3 and Fig. 4 pictures the products of the VAX in the Office of Library Services. Fig. 5 plans for future development through the use of the VAX and Fig. 6 shows programs that can be provided through the minicomputers.

The Office of Library Services is revising its automation plans to meet the challenges of the immediate future. The accomplishments since 1973 enabled the Library System to survive the financial crisis of the 1970s and to lay the foundations for progress in the 1980s. The expectation is that the public libraries will continue to use technology to enhance the scope of services in order to bring Hawaii's residents a better quality of life.



ACQUISITIONS

II. ACQUISITIONS

Statement of the Problem

In the cycle of library materials administration, acquisitions, including the inventory of materials purchased, is the logical initial phase followed by cataloging, circulation and finally withdrawal from the collection. In 1975, the primary focus of attention was the book order and catalog modules for 229 school libraries and 46 public libraries. The Centralized Processing Center, assigned to control the book acquisitions and catalog procedures, was burdened with manual procedures that took huge amounts of time to complete and inadequate manpower to handle the enormous tasks. This in turn impacted on the ability of the library services units to deliver materials to students and public.

In an effort to alleviate the problems experienced by the large book processing agency, the Office of Library Services explored data processing methods and programs available to handle massive, repetitive tasks necessary to the operation of an efficient book acquisition and catalog systems. Constrained by time and the lack of trained, technical personnel, the Office of Library Services elected to forego an extensive research and development program and purchased an operating system and modified and installed it for use by the Centralized Processing Center.

Research and Evaluation is continuing to convert parts of the order system from manual to online. The order listing and branch order procedures are currently targeted for implementation to data processing methods.

Objectives

The objectives of research for a book acquisitions system are:

1. Improvement of school and public library services through the control and increase in the flow of materials from the Centralized Processing Center.

2. Management control through the ability to handle budgeting and accounting necessary for the 229 school and 47 public library order units.

3. Staff savings in processing and in book listing.

4. Administrative control of the inventory of the school and public libraries.

5. The creation of machine readable inventory and catalog or bibliographic data files used to provide an automated circulation and catalog systems.

Accomplishments

The Office of Library Services researched, purchased, modified and installed an acquisitions catalog system BIBLIOS, purchased from the Orange County Library System, Orange, California. Rebuilt and renamed BIBLIOS HAWAII, the system has been operating since November 1976 on the State's computer managed by the Department of Budget and Finance, Electronic Data Processing Division. A batch-mode system, BIBLIOS HAWAII is described in the following pages and in Fig. 7.

BIBLIOS HAWAII is divided into nine subsystems and into sixteen cycles:

SUBSYSTEM NAME	CYCLE NAME
BIBLIOGRAPHIC	Bibliographic
CATALOG	COM Materials Catalog
PROCUREMENT	Pre-Order Order Budget Vendor Invoice Receipts/Cancellations
INVENTORY	Inventory
LOCATOR GUIDE	Locator Guide
SPECIAL REPORTS	Special Reports (Collection Profile)
PROJECTED BRANCH	Projected Branch
SPECIAL SUBSYSTEMS	Periodical Select Keys Media Catalog
LITERAL TABLE	Literal Table

Detailed descriptions of BIBLIOS HAWAII subsystems follow.

Bibliographic Subsystem

The Bibliographic Subsystem creates and maintains a permanent data base of bibliographic information: The Title Master File. This file serves as a basis for cataloging, inventory, procurement and statistical activities within the library. Programs within this subsystem perform the following functions:

1. Create and process into the Title Master File bibliographic data on new library materials from manually prepared sources.

2. Modify or delete entries in the Title Master File.

3. Generate listings which display the contents of the Title Master File in various formats.

Reports produced by the Bibliographic Subsystem are:

1. Master Title List
2. Master Title Supplement
3. Master Title Changes
4. Available List
5. Master Author Index
6. Master Title Index
7. Bibliographic Cycle Input/Error List
8. Title Master File Edit Index
9. Bibliographic Cycle Balance Totals

Catalog Subsystem

This subsystem processes only print materials (books). It prepares and arranges in sequence for catalog listing a tape for the COM (Computer-Output-Microfilm) vendor to process into microfilm catalogs. The subsystem is capable of generating full or cumulative supplement catalogs.

Reports produced by this subsystem are:

1. Balance/Error List
2. Author/Title List-Adult
3. Author/Title List-Juvenile
4. Subject List-Adult
5. Subject List-Juvenile

The Author/Title Lists and Subject Lists are translated into catalogs for public use.

Procurement Subsystem

The Procurement Subsystem performs functions concerned with the purchasing of library materials. The subsystem accumulates book orders, generates ordering documents and receiving documents, and processes receipts.

Pre-Order Cycle

The Pre-Order Cycle captures bibliographic, vendor and cost center data requirements for books and other library materials and produces reports asscoiated with the process of placing orders.

Programs within this cycle accumulate orders from school and public libraries, select from the vendor file appropriate vendors, receive bibliographic data, and generate pre-order lists.

Reports produced by the Pre-Order Cycle are:

1. Review List
2. Pre-Vend List
3. Pre-Order List
4. Error List
5. Input/Error List

Order Cycle

The Order Cycle requires no manual preparation of source documents. The Cycle receives data from the Pre-Order Cycle, assigns sub-purchase order numbers, updates the vendor file, updates the budget files and generates documents on the status of book orders.

Reports produced by the Order Cycle are:

1. Sub-Purchase Orders
2. Requisition Data List
3. Receiving and Distribution List
4. Cumulative On-Order List
5. Branch On-Order List
6. Vendor Appropriations List

Budget Cycle

This cycle keeps the Budget History File in continual update and generates financial reports for all ordering libraries combined. Budget data is recycled to zero to start each fiscal year. Any encumbrances are added to the next fiscal year's appropriation for each category.

Reports generated by the Budget Cycle are:

1. Budget Detail Report
2. Budget Regional Report
3. Budget Summary Report
4. Budget Input/Error List
5. Budget History Change List

Vendor Cycle

This cycle is used to keep an updated file of vendors used by the system and to prepare a statistical report of the performance of these book jobbers.

Reports produced by the Vendor Cycle are:

1. Vendor Performance
2. Vendor Input/Error List
3. Vendor File

Invoice Cycle

This cycle maintains accurate vendor and budget performance data. It processes receipts and cancellation data and purges all fully paid sub-purchase orders. It also captures the number of copies received and the actual prices paid, and revised list prices.

Reports produced by the Invoice Cycle are:

1. Invoice Suspense List
2. Invoice Input/Error List

Receipts/Cancellations Cycle

The Receipts/Cancellations Cycle processes receipts and cancellations against entries outstanding on the Order File. It produces reports reflecting the current status of orders. outstanding in the system.

Reports generated by this cycle are:

1. Branch Receipt/Cancellations List
2. Headquarters Receipt List
3. Cancellation Notices
4. Penidng Cancellation List
5. Receipt Input/Error List
6. Headquarters Cancellation List

Inventory Subsystem

This subsystem creates an Inventory Master File and provides for processing new information into this file. A record of the total number of copies of all items in all media is contained in the Inventory Master File.

Reports produced by this subsystem are:

1. Inventory Master List
2. Inventory Supplement
3. Inventory Change List
4. Convelope (Special Forms)

Locator Guide Subsystem

The Locator Guide Subsystem creates a formatted and sequenced file of book identification numbers and a list of libraries that have the titles. The file is now designed to be sent to a COM vendor for a microfilm catalog.

The report produced by this subsystem is:

1. Locator Guide

Special Reports Subsystem

This subsystem uses data from the Short Title File, containing bibliographic data, and the Inventory Master File to accumulate holdings statistics for selected or all libraries and to generate bar charts of the results. The intent is to produce in graphic form a profile of branch library holdings for selected media, binding, level, sublevel, and a range of publication dates. For each profile a further subdivision of Dewey numbers or Cutter Codes can be selected. This will generate a bar graph for each range of call numbers specified.

Reports generated by this subsystem are:

1. Profile Error List
2. Collection Profile

Projected Branch Subsystem

The purpose of the Projected Branch Subsystem is to provide for library materials collection and to create a new branch without disturbing the ongoing Pre-Order process for existing branches and without setting up computer conditions for a follow through of the ongoing Order Cycle.

Reports produced by this subsystem are:

1. Projected Branch Review List
2. Projected Branch Pre-Vend List
3. Projected Branch Pre-Order Cost Report
4. Projected Branch Error List
5. Projected Branch Input Errata List

Special Subsystem

The cycle within this subsystem are new and have been added by Orange County and the Hawaii State Library System recently but are not totally implemented. These are the:

Periodical Subsystem

The Periodical Subsystem creates and maintains a permanent data base of periodical (magazine) information called the Periodical Master File. The subsystem processes transactions which add, change, and delete entries from the Periodical Master File.

Reports produced by this subsystem are:

1. Periodical Transaction Listing
2. Periodical Master Listing
3. Periodical Master Update List

Select Keys Cycle

The purpose of this cycle is to extract entries from the full Title Master File by selected keys (Office of Library Services identification number) and/or by selected media codes.

Non-book Catalog Subsystem

A by-product of the Catalog Subsystem, this cycle processes media codes other than books (01) such as phonodiscs, phonotapes, films, etc. The cycle arranges and prepares in sequence adult and juvenile materials separately to produce a tape for the COM vendor to process into a catalog.

Reports produced by this Non-book Catalog Subsystem are:

1. Balance/Error List
2. Author/Title List-Adult
3. Subjet List-Adult
4. Author/Title List-Juvenile
5. Subject List-Juvenile

Literal Table Subsystem

The Literal Table Subsystem generates a file of commonly used codes and their related literal names to be commonly used throughout the system for verification and translation purposes.

The report produced by this subsystem is:

1. Literal Table

Accomplishment

Installed and operating since November 1976, BIBLIOS HAWAII has met the objectives originally set for an automated acquisitions system:

1. It brought under control the flow of library materials and increased the quality and quantity of books going to school and public libraries.

   Statistics show in 1974 the Centralized Processing Center handled 17,600 titles and 292,829 volumes; in 1981 the Center processed 40,000 titles and 410,000 volumes. Automation has more than doubled the Center's ability to process titles and to add copies.

Data processing has also shortened the book order time. Before automation, the Center took an average of six months to hand sort order slips. With data processing techniques, this time has been reduced to two weeks for data entry and several days to machine process purchase orders and to print order lists.

2. It has made it possible to handle large sums of money for over 300 order units.

   In 1974, the Centralized Processing Center handled $949,000 in school and public library book funds. In 1981, it managed 2.2 million in school library, public library, and curriculum materials funds.

3. It has created staff savings to the extent that the Centralized Processing Center has not doubled its staff while increasing its workload more than 100 percent.

   In 1975, The Center had 41 employees on its payroll; in 1981 this figure had increased to 42.5

4. It has provided machine readable inventory control for school and public libraries.

   BIBLIOS HAWAII has in its inventory all of the books purchased for school and public libraries since it began operation. This inventory can be used by the libraries in developing collections and in the building of automated catalog and circulation systems.

5. It has created order, inventory, catalog files to be used presently in the microfilm catalog and in the future for a circulation system.

   BIBLIOS HAWAII has built an inventory and catalog system title tags and bibliographic information crucial to the conversion to an online acquisitions and catalog systems.

BIBLIOS HAWAII managed to bring under control the operating procedures for the nations largest single book processing center, paved the way for future development in the automation of libraries, and provided opportunities for services from both school and public libraries.

Plans

1984-1985 Online Order Listings

The Office of Library Services will research and develop programs for converting the manual book listing and branch order cycles to a partially online system using the VAX purchased for the circulation system. Selectors in the Hawaii State Library compile and annotate lists of titles available for purchase for the public libraries and public school libraries. Librarians purchase from these lists. The Centralized Processing Center enters the order data into BIBLIOS HAWAII which subsequently provides purchase orders, receives books, accounts for funds, and compiles catalog information for the titles in the system. The new order list system will allow for original data entry from the selectors at the Hawaii State Library . Online display will also permit editing by the same selectors. The VAX will sort and format the orderlists and compile an order sheet which will be duplicated by the Centralized Processing Center for distribution to public and school libraries. Public libraries will order online. School libraries will fill out manual order sheets which will be entered into the machine file by the Centralized Processing Center. A tape will be sent to the Department of Budget and Finance, Electronic Data Processing Division computer for processing into BIBLIOS HAWAII.

The procedures being developed will consclidate typing, editing and formatting the order list by several units into the VAX, thereby saving time and personnel. Programs are being worked on by personnel in the Office of Library Services and should be substantially completed by the end of 1984/85. Training and program maintenance will be the work of the same staff engaged in the installation and maintenance of the circulation system.

1984-1985 Machine Printing and Assignment of Barcodes

The agreement with Universal Library Systems will enable the Office of Library Services to print and machine assign barcodes to copies of titles purchased for the libraries. The public libraries will purchase barcode printers. Universal Library Systems will write programs that will operate on the VAX, the Office of Library Services will write programs to format the BIBLIOS HAWAII inventory information for use by the VAX programs.

The linking of barcodes to book titles is done at the average rate of 60 items per hour. The public libraries expect that approximately 60 percent of the books purchased can use machine generated barcodes. This will save the public libraries personnel time spent to link approximately 150,000 books annually. Fig. 8 shows plans for revising BIBLIOS HAWAII for extracting barcodes.

1985/86 Order System for Public High School Libraries on Oahu

The Office of Library Services will work with the school system to develop an online order system for the public school libraries. The cost of equipment and telecommunications is prohibitive at the present time to include all school libraries. However, with the possibility of shared resources and improvements in equipment, it may be feasible to look forward to an online order module to include all libraries participating in the order system from the Centralized Processing Center.

Costs

1984-1985 Online Order Listings

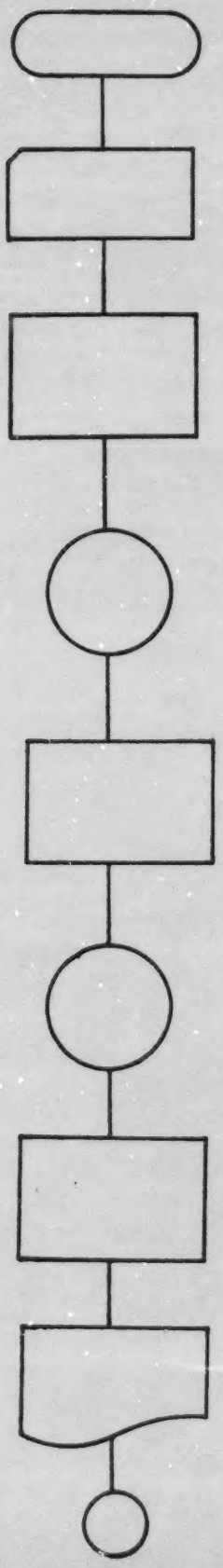
The Office of Library Services expects to use terminals installed for circulation to enter order list data. These terminals will be supplemented by microcomputers that can be used to store book list information to be uploaded into the VAX.

Microcomputer (Digital Pro 350 $6,000 ea., at 50% discount, 2 units)	$12,000
Barcode printer (Intermac $9,000 ea., 2 units)	18,000
Supplies (labels)	15,000
Total for 1984-85	$45,000

Evaluation

The success of the program will be based on:

1. Personnel time saved in data entry for order system.
2. Personnel time saved now spent in listing books.
3. The number of barcodes and labels printed and used.



CATALOG

III. CATALOG

Statement of the Problem

The automation of the acquisitions cycle resulted in massive quantities of materials flowing into libraries. The Office of Library Services wished to: 1) make these materials available to readers as soon as possible; 2) assure that the items purchased were available to all of the residents of the State; and 3) provide a solution to the manpower required to file approximately 1,500,000 catalog cards annually into about 50 individual catalogs.

The traditional card catalog provided readers with information on books in the immediate library thereby limiting the use of each collection to its local population. The Library System created a central database to provide a single catalog containing all titles and holdings so that library users could select from a larger pool of materials than previously.

Objectives

The objectives of the catalog module are:

1. The creation of a single bibliographic data file of all the titles in the Library System so that these books could be made available to all of the library users in the State.

2. Manpower savings due to machine filing of catalog information.

3. The addition of titles on order to this file so that library patrons could reserve books as soon as the items were ordered by the public library units.

4. To use the bibliographic file and the inventory information for online circulation and catalog modules showing the availability of each copy of a title.

5. To enhance the quality of life in Hawaii through libraries that provided quick, efficient services as well as the ability to choose from a large bookstock.

Accomplishments

1. A single bibliographic data base with retrospective information was created through the efforts of the catalogers in the Office of Library Services and through contractual services.

2. Manpower savings were achieved through the machine filed catalogs.

3. Titles on order are available in the microfilm catalog and in the online circulation system thereby allowing all library patrons the opportunity to use the systems collection.

4. The bibliographic file is combined with the inventory to show the status of each copy in the online circulation system.

5. The circulation system is available for use as an online catalog for staff. Each library has a turntable on which a terminal can be mounted so that the title and status of books they are seeking can be seen by the patrons.

Plans

The Office of Library Services plans to extend the automated circulation system to include a public access catalog module. The search programs in ULISYS, the automated circulation system, permit retrieval by author, title, subject, added entries, ISBN

(International Standard Book Number), OLS number (the Office of Library Services unique number), LC (Library of Congress) number, and call number. Public access can be achieved by providing more terminals and locking these terminals into SEARCH (the catalog function) for library patron use only. When libraries are closed, these terminals can be used for system housekeeping purposes.

The public access catalog should not involve additional software costs, except for system adjustments for a new computer. However, the conversion will require a considerable outlay of funds for computer upgrade, terminals, and for the expansion of a telecommunications system.

Fig. 9 shows a possible network which includes the circulation terminals. Public high school libraries on Oahu can be dropped into this network and benefit from the services provided by the Library System's computer. The inclusion of the public high school libraries is described in chapter on circulation. The configuration described here is not final. There are other possible routes for a a telecommunications network and assignment of terminals. Fig. 9 is an alternative and does not show all possible terminal locations.

The intent is to show the basic telecommunications network and the possibility of adding libraries to existing lines in order to save costs and provide services that would otherwise be too expensive to provide.

1985/86 Purchase central site hardware

Hardware		
CPU to handle 300 terminals		$300,000
Multiplexors and other equipment to handle lines into CPU		200,000
Tape drive		30,000
1200 LPM Printer		29,000
Site preparation		50,000
Software		
VMS or equivalent		10,000
DEC Basic		10,000
Software upgrade		20,000
	Sub-total:	$649.000
* Less trade in for existing VAX		$150,000
	Total:	$499,000

1986/87

Hardware		
VT 101 terminals ($1,350 ea. x 75)		$101,250
Telecommunications equipment		200,000
Telephone lines		30,000
	Total:	$331,250

* This VAX may be retained to accommodate dial in access at night and for circulation use during weekends. The computer is being traded in the interest of economy.

1987/88

Hardware

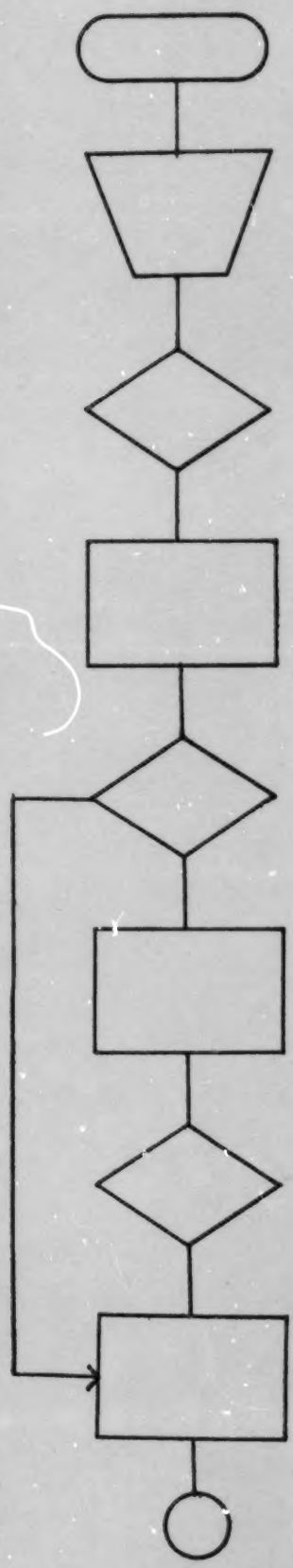
VT 101 terminals ($1,350 ea. x 75)		$101,250
Telecommunications equipment		200,000
Telephone lines		30,000
	Total:	$331,250

Evaluation

The success of the online catalog should be based on:

1. Survey of patron use and satisfaction with the system.

2. Increased use of the public library system including rise in in-library users, circulation and intraloans.



SERIALS

IV. SERIALS

Statement of the Problem

Due to the continuing nature of magazines, periodicals, newspapers, etc., serials present control problems that are distinct and different from monographs. Serial titles need to be listed and distributed to public libraries and to other libraries in the State so that these become available for use through the intralibrary and interlibrary loan mechanisms. Further, each issue of every serial title, which may be regular or irregular, needs to be checked in so that these single issues become available for reading and for loan.

In large research libraries, serials management is a formidable and highly necessary task since these titles contain new information on recent developments. In public libraries, serials control, while important, does not constitute as major a need as the circulation and catalog systems.

For access to serials, see Chapter IX Reference. The Office of Library Services intends to extend information retrieval services to offer recent information through this route.

Objectives

The objectives of serials control are:

1. To bring under control in a single file all of the serial titles purchased by the system

2. To control the checking in of individual serial issues and to claim missing issues

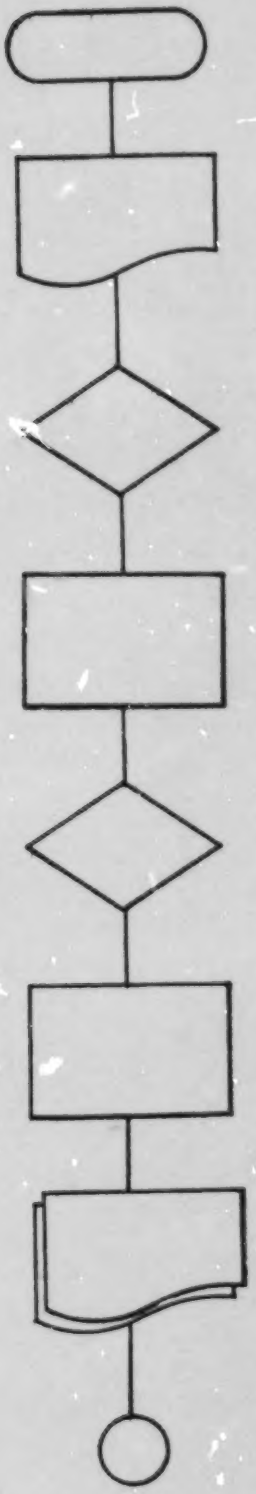
Accomplishments

Serials management must necessarily wait until the larger task of acquisitions, catalog, circulation and inventory control of books are accomplished.

The word processor will make the large task of listing serial titles simpler and faster for the immediate future.

Evaluation

The serial module will wait until projects that demand higher priority are completed. The acquisition and catalog cycles are massive tasks taking time and effort from serial control.



CIRCULATION

V. CIRCULATION

Statement of the Problem

The Kaiser Charge Method was installed in 1966 to tie the individual libraries into a single system allowing patrons to borrow books from any library and return it to the most convenient one in the organization.

The Kaiser Charge System begins with patron generated handwritten charge forms with one to four transactions per slip. The Library System presently uses a multiple form and single copy version. The patron writes in the author, title, and accession number. Thereafter, the library staffs engage in extensive manual tasks reading the handwritten slips, to check in, issue overdue notices, bills, reserves, etc.

The Kaiser Charge System performs the following functions:

1. Check-out
2. Check-in
3. Issue overdues
4. Issue bills
5. Reserve books
6. Some interloan

All neighbor island public libraries are still on the Kaiser Charge System.

Cost

The manual system is labor intensive. The system spent approximately $40,000 a year in printing and distributing the

Kaiser Charge slips. The estimated cost for clerical time necessary is large. Due to the high cost and lack of personnel, branches in the public library system were six to eight months behind in issuing overdues and bills. Lack of proper tracking of patrons and books, late delivery and inaccuracies inherent in the system cause the Library System to lose over a million dollars annually in the current replacement value of books.

Patron Dissatisfaction

Library patrons, especially children, resist the Kaiser Charge slips which must be filled out manually. The charge system takes patron time and effort to the extent that marginal library users often drop out of the reading habit rather than meet the demands imposed by the manual method.

Loss of Collection Quality

Deterioration in the quality of the public library collection is a result of the high cost rate in library materials. The loss of the estimated million dollars worth of books annually means that a significant percentage of the current and best books in the system are not being returned. Hawaii's library patrons not only have fewer books to read than patrons in other library systems, but may be using older, less current materials.

When the Hawaii State Library Branch collection was converted to machine readable form, only 48 percent of the books were in the Library of Congress (MARC) files started in 1976. It is

reasonable to assume that much of collection predates the MARC files.

Inflexibility

Previous circulation figures showed that the Library System could keep up with the growing population and its need for more information. Circulation for the system went up 7 percent in 1977 attributable to an increase in book funds and the operating automated BIBLIOS HAWAII system which was responsible for the rapid processing of the books. Circulation rose another 5.72 percent in 1977/78 when the microfilm catalog was introduced giving library patrons a wider selection of titles.

The periods of circulation growth is being followed by seasons of slow growth. Taxed to the limit, librarians and clerical personnel have fallen behind in issuing overdues and in collecting books from the patrons. The Kaiser Charge System can no longer grow to meet the continuing demands of the information seeking population.

Lack of Fines Management

HRS 312.5 providing for fines and charges for lost materials cannot be practically implemented with the manual system. Libraries that are now six to eight months late in issuing overdues and bills cannot practically meet the deadlines necessary for the collection of fines. The manual system must also depend on a typed delinquent list which must be checked

before suspect patrons are cleared and allowed to borrow books. The implementation of HRS 312.5 will be difficult with the manual operating system.

Objectives

The objectives of an automated circulation system are to:

1. Extend services to the general public through control of the circulation system. This would mean:
   a. Wider selection of books available and subsequent circulation growth.
   b. More copies of books available for the reason above.
   c. Prompt overdue notices and bills enabling reminding patrons to return books before the items are misplaced.
   d. Prompt intraloan services enabling patrons to borrow books from all libraries in the system.
   e. Elimination of handwritten charge slips enabling patrons to check out books more efficiently.
2. Approximately 14% growth in circulation without adding more staff to the public library patron service circulation units at the present time. This means:
   a. A machine readable data base and inventory from which staff and patrons can select materials for use.
   b. Computer printed overdues and bills saving staff time.
   c. The ability to track books, recall, reserve, hold, etc.
   d. Speeding up the check out and check in procedures so that staff time can be used for direct patron services.
3. Install and implement a fines system to control delinquent patrons. This includes:
   a. Overdue notices and bills.

b. Delinquent patron stops which identify and prevent these patrons from borrowing more books.

c. Fines management, accounting, and reporting.

4. Aid in the overall management of libraries through statistical reports. This includes:

a. Circulation statistics, by branch and system.

b. Types of books circulated.

c. Number of patrons registered.

5. The automation of related areas including:

a. Control of the indexing of Hawaiiana materials through use of the programs designed to present the bibliographic data.

b. Internal communications network achieved by using the computer and terminals to send administrative messages to and from the library units.

c. Development of a management information system using the same hardware and operations software.

6. Implement an interlibrary cooperation network. The circulation system can be shared with other libraries in the state to:

a. Install an interlibrary loan network. Libraries with terminals can dial into the system to locate and reserve books in the public libraries. Units in the Office of Library Services will also be able to send messages requesting the loan of materials or services from other libraries with terminals.

b. Share the circulation system with libraries outside of the public library system. In order to save on the high cost of computer hardware and telecommunications, libraries, particularly, the neighbor island community colleges, may at minimum cost use the public library circulation system, share in the loan of library materials with the public libraries and share in the management reports resulting from the circulation system.

7. Meet User requirements.

User requirements as determined by the Feasibility Study conducted by Hank Epstein, October, 1980 are as follows:

FUNCTION

CIRCULATION FUNCTION
Check-out
Renewals
Check-In
Fine & Fine Accounting
Reserves (Titles)
Reserves (Specific Copy)
Patron Notices
On-Line Patron Files
On-Line Title Files
Prompts - Multi-level
Prompts - Help Command
Holiday Provision

PATRON NOTICES
Format Flexibility
Wording Flexibility
Foreign Languages
Overdue Notices
Final Notice (Bill)
Reserve Notice
Reserve Cancel Notice

MANAGEMENT REPORTS
Reports by Branch
Monthly System Totals
Year-to-Date Totals
Percentage Calculation
Patrons by Type
Patrons by Residence
Patron List

CIRCULATION REPORTS
By Material Type
By Call Number Groups
By Patron Type
By Patron Geog. Location
By Time and/or Terminal
Missing Items
Items Loaned to Another Branch
Purchase Alert Report
List of Current Reserves
Reserve Statistics
Reserve Shelf List
Shelf Clearance Report
Overdues and Bills

FINE ACCOUNTING
Fines Collected
Fines Forgiven
Patrons With High Fines
Fine Receipts
$ of Outstanding Fines

COLLECTION MANAGEMENT REPORTS
Items added/withdrawn
Inventory Control Report
Items & Titles Owned By Branch
Item Activity Report
ILL Report

(Epstein, Hank: Automated Circulation System for the Hawaii State Library System, Feasibility Study - Phase II, October, 1980, pp. 29-30)

User requirements outlined in the contract include:

Check-Out

Definition

The check-out procedure is the loaning of a library item to a valid patron for a specified length of time.

General conditions

Inputs to the system will be through an optically encoded patron identification label and an optically encoded item identification label. The system must also accept input of

these identifiers by keying. These inputs must be supported by full on-line patron and materials inventory files. The encoded labels must be products generally available in the United States and used in most automated circulation systems. The system must be able to handle cataloged and noncataloged materials, e.g. paperbacks and other ephemeral materials.

Patron Input

Read patron identification

The patron identification label must be read from an optically encoded machine-readable label.

Manual entry of patron identification

The system must provide for manual entry, through a keyboard, of patron identification numbers.

Patron validation

The system must verify patron status to assure that the patron is acceptable to borrow items. Patrons not on file, patrons whose cards have expired, and patrons on a "restricted borrowers" file must be excluded at this point and the system must cause an audible signal. The system must display the reason for the block and provide for operation action before the check-out transaction can be completed.

If fines threshold is exceeded, audible signal. Also includes an overall trap.

Initial patron action

New patrons must be able to check-out items through operator action.

Special borrowers

The system must be able to check-out items to special borrowers, or to special conditions, e.g., mending, bindery, missing, hold, etc.

Secondary patrons

The system must be able to charge items to another branch which will subsequently check-out these items to patrons.

Store patron data

The system must store identification numbers and all other data associated with patrons and provide item-patron linkage.

File update

The system must update patron files and all files associated with patron input immediately upon completion of each transaction.

Action completion

The system must signal the completion of each transaction with an audible signal.

Item Input

Read item identification

The item identification number will be read from an optically encoded machine-readable label located on the item.

Manual entry of item identification

The system must also provide for manual entry, through a keyboard, of item identification numbers.

Item validation

The system must verify item identification numbers and assure that no exceptional conditions exist. Minimum exceptions include:

a. Item not on file
b. Item already in circulation
c. Item not available for circulation
d. Item on reference
e. Item missing
f. Item on hold
g. Item withdrawn

Exception condition alert

The system will provide operator alert with an audible signal for an exceptional condition and display reason for the block.

Excessive materials alert

The system must provide an audible alert when a patron attempts to check-out more than the library specified number of items. The system must display the reason for the alert and provide for operator override of the condition.

Multiple item input

The system must be able to check out more than one item to a patron without repeating the input of the patron identification label with each new item.

Loan periods

The system will provide a schedule of multiple loan periods (minimum at least 12 (twelve)) avoiding all holidays and dates when the libraries are closed. The operator must be able to override system-set loan periods and manually input new due dates.

Store item data

The identification number for each item eligible for loan must be stored on file and must be able to be associated with appropriate patron information.

Update files

The system must update immediately after each item input transaction all applicable files.

Item renewal

The system must have the capacity to renew loan periods providing that no exceptional conditions result.

Action completion signal

The system must provide an audible signal at the end of each item input transaction.

Uncataloged materials

The system must be able to check out uncataloged materials such as paperbacks and McNaughton Plan books, etc.

Check-In

Definition

The check-in procedure is the removal of a library item from in-circulation status.

Read item identification

The item identification number will be read from an optically encoded machine-readable label located on the item.

Manual entry of item identification

Provide for manual entry through a keyboard for item identification numbers where labels are defective or missing.

Manually inputed identification numbers

Provide for discharge of items with identification numbers inputed manually through a keyboard.

Validate exceptional conditions

The system will verify the identification number to assure that no exceptional conditions exist. Minimum exceptional conditions to be provided for:

a. Item on hold.
b. Item not on file.

Validate item

The system will verify the item identification number and alert the operator when an item not owned by the library is discharged.

Exceptional condition alert

Exceptional conditions for an item will cause an audible alert and will require operator action before proceeding with check-in.

Overdue fines calculation

The system will update the financial obligations file. The system will provide a printout of the items overdue and the associated fines upon request.

Update files

The system will update all files associated with check-out and check-in immediately and remove the item from the in-circulation status.

Action completion signal

The system must provide an audible signal to alert the operator at the end of each check-in transaction.

INQUIRY

Definition

Inquiry is an operator/machine dialog used to search on-line files for titles, patrons and information germane to requests. The inquiry is entered via keyboard with information displayed on a cathode ray tube (CRT).

Items access points

Item inquiry can be made throught the following access points:

a. Call number
b. OLS number (unique title number)
c. Item label number
d. Title
e. Subject
f. Added author
g. Type of material
h. Search keys

Products of item inquiry

The item inquiry function must be capable of producing the following information:

a. Call number
b. Author
c. Title
d. Publication date
e. Subject
f. Item identification number (bar code label)
g. OLS number (unique title number)
h. Inventory, or list of holding libraries
i. Current circulation status of item
j. Borrower identification number if in circulation
k. Due date if in circulation
l. Hold status and number of corrent holds
m. Billing price per item displayed

Patron access points

Patron inquiry should be initiated with entry of:

a. Patron identification number
b. Patron's full name
c. Search key (partial name)

Products of patron inquiry

Patron inquiry must be capable of producing the following information:

a. Patron name
b. Patron identification number
c. Patron address
d. Patron category or status
e. Restricted borrower status
f. Outstanding financial obligations
g. Items on loan to the patron

Holds

Definition

The holds procedure reserves desired items for requesting patrons or library. When the desired item is found or checked in, it is segregated and placed in a special location. The patron or library is then notified that the item is now available and will be reserved for a specified length of time. If the item is not called for, the item will be released for circulation or to the next patron on hold.

Placing holds

The system must have the capability to identify and place holds for items in circulation and items not in circulation.

Enter patron identification

The system must read patron identification either through a machine-readable label or throught a keyboard.

Patron validation

The system must validate patron status and assure that the patron is acceptable to place a hold. Excluded patrons will require operator intervention before proceeding.

Item inquiry

The system must be capable of providing all procedures described in INQUIRY.

Queue

The system must provide for multiple patron requests with a holds queue giving priority to first requestor. The system must also be capable of altering the queue algorithm with operator intervention.

Single copy queue

The system will provide for multiple patron requests for a single copy of a title giving priority to requesting date.

Multiple copy queue

When holds are being held for multiple copies of a title, priority will be by requesting date. The queue will be separate for each island.

Availability notice

The system will provide a written notice to be mailed to patrons notifying that the title on request is on hold for a specified number of days.

Cancellation notice

The system must provide a written notice to be mailed to patrons cancelling holds if the patrons fails to check-out the book within the specified number of days.

Recall

The system must be capable of recalling books in circulation.

Holds list

The system must be capable of producing a printout of all items on hold and the number of patrons requesting items on hold.

Holds for libraries

The system must be capable of providing holds for libraries within the system and outside of the system.

INTRALOANS

Definition

Intraloans are loans from one library to another within the system. Procedures for holds will cover intraloan procedures.

INTERLOANS

Definition

Interloans are loans from one library within the system to another library outside of the system or vice versa.

Check-out

The system must provide for check-out of items borrowed from another library to a patron.

Check-out

The system must provide for check-out of items borrowed from another library outside of the system.

Exceptional condition alert

The system must provide an audible alert to indicate to the operator that a book belonging to another library outside of the system is being checked-in. The system must display the owning library and address.

OVERDUES

Definition

Overdue items are those not returned by date due and include "lost" items. The purpose of overdue processing is to enforce the loan regulations for library items.

Overdue check-in

The system must be capable of all procedures required in CHECK-IN. as well as compute overdue fines, bills, and update records.

Overdue alert

The system must trap overdues and alert the operator with an audible signal.

Compute fines

The fines are subject to change and the capability of revision must be included with the system, Computation should be based on

CHECK-IN date, DUE date. The system must handle at least five different fine schedules. The system also must be capable of operator override and discounts.

Remove record from in-circulation status

The system must be capable of removing an overdue record from in-circulation status.

Send patron fines notice

The system will provide for the creation of notices indicating fines for excessive use of an item or items.

Update patron overdue record

The system will provide for updating the patron record to indicate that the patron has library items overdue and that fines are due at the library.

Update restricted borrower data

The system will keep and provide for the updating of the restricted borrower record according to pre-established thresholds set by the library limiting the number of items permitted on loan and overdue.

Billing process

The system will have the capability of setting a threshold at the library's option representing the number of days an item can be overdue before the item is considered lost and a bill is sent to a patron.

Bills production

The system will generate bills to be sent to patrons indicating the total dollar amount due for overdue items and for items lost.

Accounting

The system will have an accounting module keeping all funds collected branch by branch, cumulated by region and system. The system will account for fines forgiven branch by branch

Update patron bill record

The system will provide for updating the patron record to indicate that a bill has been sent and to identify the items overdue and/or lost.

Languages

The system must be capable of producing bills in 10 different languages using the roman alphabet for limited and/or non-English speaking patrons.

Overdue notice and bill production

Overdue notices and bills must be produced on postcards or mailable forms and filed by zip code and carrier route numbers.

Management Reports

Definition

Management reports are hard copy documents reporting on the system performance.

Statistics

The system must produce the following statistical reports:

a. Items circulated by branch, region, system.
b. Items overdue by branch, region, system.
c. Items lost by branch, region, system.
d. Overdue notices by branch, region, system.
e. Bills sent by branch, region, system.
f. Items added by branch, region, system.
g. Items lost by branch, region, system.
h. Items withdrawn by branch, region, system.
i. Holds by branch, region, system.
j. Interloans by branch, region, system.
k. Funds collected by branch, region, system.
l. Fines cancelled by branch, region, system.
m. Number of patrons by branch, region, system.
n. Patrons by type.
o. Number and patrons on restricted borrower list.
p. Check-outs by loan periods.
q. Circulation by patron category.
r. Items circulated by call number, by branch, region, system.
s. Recalls by item.
t. Statistics by terminal.
u. Statistics by time of day, day, month, year.
v. Have lists and reports by request.
w. Patron file and history printouts.

Bibliographies

The system must have the capacity to produce bibliographies by:

a. Classification number
b. Author
c. Title
d. Subject
e. Collection location
f. Series
g. Language designation
h. Owning library

Items withdrawn

The system should produce a list of items withdrawn and/or lost from the system.

System performance reports

The system should produce reports giving system performance by number of jobs done, system down times, etc.

Purchase alert

The system should produce reports indicating the need to purchase additional copies when the holds list goes beyond a library set threshold.

FILES

Definition

Files refer to major record divisions: title, item, patron.

Title file

The title file must produce the following information:

a. Call number
b. Main entry
c. Title
d. Publication date
e. Series
f. Publisher
g. Subject headings
h. Added entries
i. Edition
j. OLS number
k. Item identification number
l. Library of Congress card number
m. ISBN number
n. Material type
o. Author/title search key
p. Frequency of circulation
q. Last activity for item
r. Copies and locations

Item file

The item file should contain inventory information including:

a. Label identification number
b. Owning branch
c. Secondary agency or library to which book may have been assigned.
d. Current loan status
e. Circulation restriction, i.e., reference, bindery, etc.
f. Last activity date
g. Frequency of circulation
h. OLS number
i. Number of copies and locations
j. Due date
k. Temporary location
l. Sending library
m. Loaning library
n. Hold status

Patron file

The patron file should contain the following information:

a. Name
b. Mailing address including zip code, carrier route
c. Telephone number
d. Name, address search key
e. Identification number
f. Language code
g. Borrowing category
h. Statistical category
i. Expiration date
j. Restrictions, if any
k. Geographic code for census tract
l. Sex and age group
m. Residency status
n. Registered library
o. Items on loan
p. Items overdue
q. Fines owed, if any

Messaging

The system must be capable of sending notices and messages from one library to another. These messages must provide for 1920 characters, or full standard screen.

Indexing

The system must provide program expansion and adjustment to include Hawaiiana indexing for at least the Honolulu Star-Bulletin, Honolulu Advertiser, the Garden Island and the Hilo Tribune Herald. The system must maintain and display index files for these periodicals for at least one year after which the system may elect to print and distribute and indexes keeping only one calendar year online.

Accomplishments

The Office of Library Services received $702,194 from the 1982/83 Hawaii State Legislature toward the purchase of a computer and software for a circulation system to be installed in four libraries: Kaneohe Regional Library, Kailua Community Library, Waimanalo Community/School Library and the Hawaii State Library. Subsequently, the public libraries received approximately $344,000 in 1983/84 and $377,000 in 1984/85 to complete the installation of the system in the public libraries.

Following a schedule set in 1982, the public libraries have:

1. Completed a computer room in October 1982 (Fig. 10)
2. Accepted delivery of the computer in December 1982.
3. Loaded the database in December 1982.
4. Installed the circulation system in the Kaneohe Regional Library and celebrated this occasion on January 17, 1983.
5. Installed the circulation system in 19 public libraries:

   Kaneohe Regional Library
   Kailua Library

Waimanalo Community/School Library
Kaimuki Regional Library
Pearl City Regional Library
Aina Haina Library
Kalihi-Palama Library
Manoa Library
Waikiki-Kapahulu Library
Hawaii-Kai Library
Liliha Library
McCully-Moiliili Library
Waianae Library
Waipahu Library
Salt-Lake Moanalua Library
Aiea Library
Wahiawa Library
Kahuku Community/School Library

6. Trained employees in the use of the system.

7. Wrote a user manual for the use of the operators of the computer terminals.

8. Write programs for a news bulletin. (Attachment I)

The automated circulation has increased circulation. Table I shows the branch libraries that have been automated for over a year and the increase in circulation.

In a report made to the Board of Education in July 1982, the Office of Library Services predicted a rise in circulation and noted that the libraries could absorb an estimated 14% increase with existing personnel. Table I needs to be studied and further recommendations made concerning workload since it is a certainty that there will be further increases in circulation.

Plans

1984/1985

The Office of Library Services plans to install the automated circulation system in the neighbor islands. Difficulties due to the cost of telecommunications and the quality of the telephone lines in some of the rural areas are being researched. Priority in the remote areas are for access to the System's database so that all titles available to the public libraries are available to all residents of the State regardless of place of residence.

The schedule calls for the installation of the automated system on Kauai in the Fall to be followed by Maui and Hawaii. By the end of calendar year 1985 or the beginning of 1986, the automated circulation system should be completed.

1985/1986

The Office of Library Services expects to extend the circulation system to the Department of Education's public high school libraries on Oahu starting in fiscal 1985/86. The public libraries will spend approximately $50,000 in the federal Library Services and Construction Act, Title III Interlibrary Cooperation funds in this effort. Half of the funds will be spent in acquiring the services of a catalog librarian to convert manual bibliographic records to machine readable form or to catalog specific items. Approximately $25,000 a year will be spent in equipment including terminals, multiplexors, modem,

etc. The cost of telecommunications should be included in the telephone charges bourne by the public libraries since the terminals for public high school libraries will be dropped into the existing network. (See Fig. 9)

The public high schools will benefit by:

1. Conversion of its databases to machine readable form. Part of the school library collections are already available in BIBLIOS HAWAII.
2. Use of the automated circulation system.
3. Interloan privileges from the public libraries.
4. Use of the other programs in the public library computer including access to the Hawaiiana news index described in Chapter VI of this paper, news bulletin, etc.
5. Use of the online order system

Details of this proposal needs to be worked out with the Superintendent and his staff. Approximately three libraries can be converted each summer provided that high school library clerks can be rotated to the converting libraries for barcoding and linking.

The existing project team in the Office of Library Services will train both public library and high school library personnel in the operation of the circulation system.

Costs

1984/1985

Hardware maintenance	$ 30,000
Software maintenance	18,700
Telephone lines	50,000
Supplies	40,000
In-house maintenance (travel, per diem, mileage)	5,000
Electricity	15,000
Telecommunications equipment for Kauai, Maui, Hawaii	150,000
Terminals for Maui, Hawaii	100,000
TOTAL:	408,700

1985/1986

Hardware maintenance	$ 35,000
Software maintenance	18,700
Telephone lines	70,000
Supplies	40,000
In-house maintenance (travel, per diem, mileage)	5,000
Electricity	15,000
Telecommunications equipment (replacements, repairs, etc.)	20,000
Telecommunications equipment for public high schools	15,000
Conversion costs for public high schools (Librarian II or contract services)	25,000
Terminals for public high schools	10,000
TOTAL:	$253,700

1986/1987

Hardware maintenance	$ 40,000
Software maintenance	20,000
Telephone lines	70,000
Supplies	40,000
In-house maintenance (travel, per diem, mileage)	5,000
Telecommunications and terminals repair, replacements, etc.)	20,000
Telecommunications equipment for public high schools	15,000
Terminals for public high schools	10,000
Conversion costs for public high schools (Librarian II or contract services)	25,000
TOTAL:	$245,000

1987/1988

Hardware maintenance	$ 40,000
Software maintenance	20,000
Telephone lines	70,000
Supplies	40,000
In-house maintenance (travel, per diem, mileage)	5,000
Telecommunications and terminals repair, replacements, etc.)	20,000
Telecommunications equipment for public high schools	15,000
Terminals for public high schools	10,000
Conversion costs for public high schools (Librarian II or contract services	25,000
TOTAL:	$245,000

1988/1989

Hardware maintenance	$ 40,000
Software maintenance	20,000
Telephone lines	70,000
Supplies	40,000
In-house maintenance (travel, per diem, mileage)	5,000
Telecommunications and terminals repair, replacements, etc.)	20,000
Telecommunications equipment for public high schools	15,000
Terminals for public high schools	10,000
Conversion costs for public high schools (Librarian II or contract services)	25,000
TOTAL:	$245,000

Evaluation

The Department of Education's public high schools should benefit through the use of the automated circulation system, the news index, order system, and other products of the automated system.

The ULISYS circulation system performs well when maintained properly. Most of the functions are installed and operating. ULISYS will go into final test the end of this calendar year.

The upgrade and enhancement crucial to any automated system is included as part of the catalog module. The circulation system will be expanded to include a public access catalog.

This will provide more terminals for the branches and will provide a more useful, dynamic automated system for public library users.

HAWAIIANA

VI. HAWAIIANA

Statement of the Problem

Residents of Hawaii have an interest in the management of Hawaiiana information. Materials that contain items of local interest and the products of Hawaii's artists, writers, etc., are important to the history of the islands. Hawaiiana is always one of the most popular shelves in the public libraries. Therefore, the acquisition, cataloging and presentation of Hawaiiana is recognized as high priority tasks by librarians.

Accomplishments

The automated circulation system includes a newspaper index which will be used for the indexing of the Honolulu Star-Bulletin, the Honolulu Advertiser and other local newspapers and magazines.

The programs written by Universal Library Systems include the ability to:

1. Enter headline data.
2. Edit and delete headline data.
3. Keep online a subject authority listing.
4. Edit the subject authority listing (limited to the personnel in the Hawaii and Pacific Collection, Hawaii State Library).
5. Print the subject authority listing.
6. Print headline data.
7. Produce tape for print shop and COM (Computer-Output-Microfilm) vendor at the end of each calendar year. This will enable the Hawaii State Library to print annual issues of the news index and to produce a duplicate in microfische.

Attachment II is a sample of the headline data listing available to all users of the system. Attachment III is a sample from the subject authority listing to be used by indexers contributing to the index.

Plans

The Hawaiiana news index is in final test and should be available as online by October 1984.

In the future, the Office of Library Services will review other areas in Hawaiiana for automation.

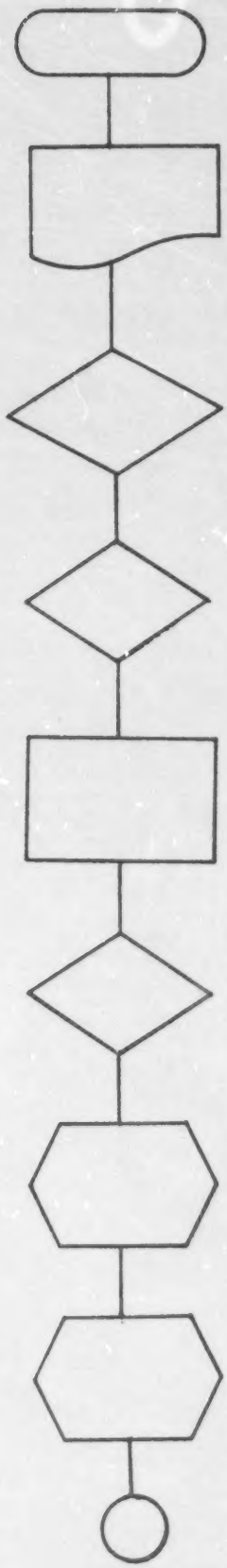
Costs

The cost for the index is included in the expenses for the online circulation system. Printing, distribution and producing the annual index in fische is an ongoing expense not previously associated with automation and therefore does not represent added costs.

Evaluation

Evaluation is based on:

1. Use of the news index by library staff to find recent articles on Hawaii for library patrons.
2. The extent to which the indexing module is used for the indexing of local newspapers and periodicals by librarians in the field.



NONBOOK MATERIALS

VII. NONBOOK MATERIALS

Statement of the Problem

In addition to the traditional books, periodicals, pamphlets, and other print materials, the Library System purchase quantified of nonbook items in the form of microforms, films, filmstrips, film loops, etc. All of these materials must be acquired, cataloged, and made available to the general public.

Nonbook materials can generally be handled using the print acquisitions, catalog and loan systems.

Objectives

The goals are to bring under control the use of audio-visual materials by:

1. Providing a listing of materials in sufficient details to identify each item.
2. Circulating these materials as easily as possible.
3. Store these items as efficiently as possible.

Accomplishments

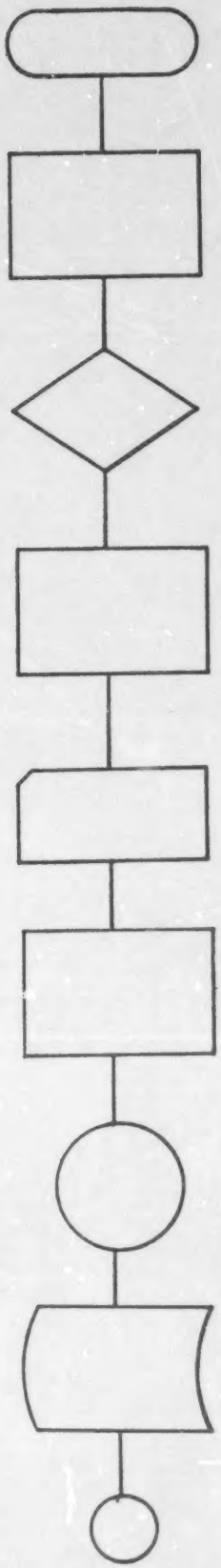
The programs for the automated circulation system have been used to list audio-visual materials briefly. This serves to identify the items. The audio-visual materials are barcoded and circulated using the ULISYS circulation system. Audio-visual materials are circulated for 7 days.

Attachment IV is a sample record showing how audio-visual materials are listed in the system.

Evaluation

The control of nonbook materials using ULISYS is a temporary measure until time and personnel permit detailed cataloging for these items.

The programs have allowed the use of the automated circulation system for audio-visual materials and the database contains a brief listing of the items available.



MANAGEMENT INFORMATION SYSTEMS

VIII. MANAGEMENT INFORMATION SYSTEM

Statement of the Problem

Act 150, SLH 1981, moved the administration of the public libraries from the Superintendent of Education to the Board of Education. The Superintendent and State Librarian has been in conference regarding administrative services to be transferred or to be shared with the Office of Library Services.

The Department is supplying budgeting, accounting and personnel management services at the present time. It is the intention of the Department and the Office of Library Services to make adjustments in this situation.

The Office of Library Services finds the Department's budget cycles and personnel management systems geared to the school year. The public libraries find that they are budgeting for the coming biennium before the results of the current legislative sessions are announced in order to accommodate a budgetary cycle that includes a three months summer leave. Budgets created in anticipation of funds received need to be changed depending on the legislative decisions.

Objectives

The ojectives of a management information system are:

1. Control of budget cycles and budget schedules geared to public library year-round operational needs.
2. Control of personnel management.

3. Accounting control

4. Statistical control and programs for decision making.

Plans

1984/1985

The Office of Library Services intends to research, modify and install an automated management information system. The system will be acquired as a software package and the programs run on the computer purchased for the circulation system.

The choice of ULISYS for circulation enabled the purchase of a computer large enough to handle a financial system and personnel module to operate during the times when the circulation system is not operating.

The financial management system will require manpower resources, especially data entry personnel, although the major data input should be online from the administrative offices and local branches. It would also require the purchase, installation and operating of the data processing programs for finance and personnel.

Fig. 5 shows how a management information system fits into the hardware used by the circulation system.

Costs

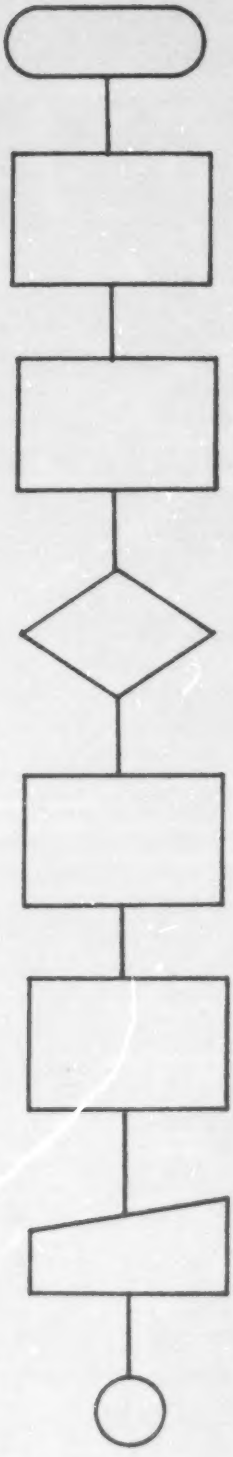
The cost of the financial management system will depend on the software purchased.

Equipment used will be the same terminals installed for circulation and catalog.

Evaluation

Evaluation criteria for a management information system should include:

1. Use of the system by the public libraries.
2. A spreadsheet that will accommodate the system's financial files.
3. Ability of the software to handle requirements drawn up by the users.



REFERENCE

IX. REFERENCE

Statement of the Problem

Libraries of today are not only depositories of information but conduits through which knowledge flows from one location to another. Individual libraries can not store the books, periodicals, and other materials needed by a sophisticated, reading and inquiring population. As a result, huge data bases have been built by private organizations that sell information for a fee. Subscriptions to these data bases can provide efficient, reliable, and current information provided either through a computer terminal or on fische for a nominal price and increase the capacity of any library to provide information. A library's ability to provide periodicals, for example, can be measured not only by the number of magazines it purchases but also by the number of periodicals indexed and abstracted in the data bases available to that institution.

Public libraries across the nation have provided information retrieval services for a number of years. Some provide this service for a fee while others include it as part of free public library services.

Due to its physical isolation in the middle of the Pacific, Hawaii's libraries value information retrieval services. It expands the ability of the libraries to provide quality reference services.

Costs include subscription fees, line and computer use fees, and document copy charges.

Objectives

The public libraries intend to:

1. Use microcomputers, purchased also for the computer literacy program, to provide quick, efficient, timely, information retrieval services.

2. Use the same microcomputers and the VAX to create local reference data bases for use in the public libraries.

Accomplishments

The Hawaii State Library has been offering information retrieval services through Lockheeds DIALOG for government agencies since 1981. ULISYS circulation system contains a Hawaiiana news index maintained also by the Hawaii State Library. The VAX is also used for a news bulletin for library events and programs contributed to by all participating libraries.

Plans

The Office of Library Services intends to work on a policy that will accommodate information retrieval services and decide whether these services will be free or provided for a fee.

The scope of services should include more data bases in order to appeal to business, scientific, professional and other needs.

The public libraries intend to take advantage of the time differences between here and the mainland in order to lower the rates for access to these data bases which normally charge during night hours.

The public libraries intend to continue indexing local newspapers and will research other areas for reference.

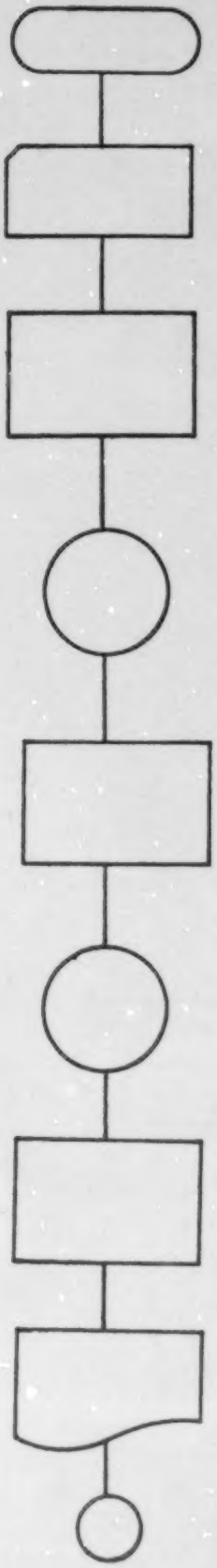
Costs

Costs will be determined after the public libraries decide whether fees will be charged or not. Equipment used will be microcomputers purchased to be shared with the general public in a computer literacy program.

Evaluation

Evaluation will be based on:

1. The extend to which reference services can be expanded through the use of other data bases.
2. The extent to which Hawaii can create local information data bases.



COMPUTER LITERACY

X. COMPUTER LITERACY

Statement of the Problem

Recent literature, recreational and news media describe the current computer information and use explosion. The high technology industries have produced new, innovative and powerful equipment and are marketing these at moderate prices resulting in the use of microcomputers for research, business, recreation and education.

Computers are the chief source of information gathering and manipulation of that information for personal or public use. Information sharing provides for an informed, knowledgeable and tolerant society able to understand complex issues and handle crises. In these uncertain times, information, the transfer and discussion of information keeps a democratic state alive. Keeping citizens knowledgeable and able to cope with changes in technology insures that the freedom of thought and inquiry will survive.

Libraianship is a profession dedicated to the collection, cataloging and dispersal of information in order that the people of the state and nation can continue to live in an informed and democratic society. The public libraries are therefore concerned that the computer age and the benefits, both personal and national, that the new technologies can bring be shared with all citizens on a free and equal basis.

Libraries on the mainland, especially in the state of California, are engaged in teaching computer skills to the general population.

The California State Library's computer literacy project should be rated among the exemplary programs for 1984. Libraries on the mainland, especially in the western states, are engaged in teaching computer skills to the general population. California State Library has initiated a massive computer literacy campaign and expects to have microcomputers and training opportunities in 169 libraries by March, 1985.

The Office of Library Services intends to: 1) provide access to computers on a free and equal basis to all citizens of the State; 2) conduct a microcomputer education program so that library patrons using the equipment will have the minimum skills necessary to operate the machines; and 3) use the microcomputers for information retrieval services in order to provide better reference opportunities for library patrons.

Objectives

The objectives are to:

1. Provide hardware of sufficient quantity as to assure adequate services and to withstand public use for at least three years before machines are replaced. The following criteria should be met:

    a. All hardware must be fully factory guaranteed with no used or substitute parts.

    b. Hardware must be maintained by the manufacturer or a licensed vendor. Manufacturer supplied parts must be available for replacements.

    c. The same manufacturer should provide all major parts of the hardware configuration. This is to ensure that all parts work together and that maintenance will be available for the major components.

d. All major components must be bolted to the data entry tables or otherwise can be secured against theft.

e. Hardware selection must be based on the quantity and quality of software that can run on the equipment.

2. Introduce enough software that the average citizen can learn the basic uses to which microcomputers can be put. Software will be selected by the Research and Evaluation Services staff and tested before use. Input from the general public will be solicited.

   Software will include:

   a. Educational programs

   b. Recreational games

   c. Business management including accounting, budgeting, spreadsheets, etc.

   d. Database management systems

   e. Word processing

3. Conduct a systematic public education program. The automation trainers, now installing the online circulation system will conduct a series of workshops for library employees and the general public. Workshops will be held in library auditoriums and will be scheduled during day and evening hours to give as manay people as possible opportunities to attend. The meeting will include:

   a. An introduction to the mechanics of microcomputers

   b. A review of software

   c. Computer fairs to be held in conjunctions with other organizations

      Library staff will be able to operate the equipment and give assistance in running the machinery. Library staffs will not become proficient in every aspect of the software packages provided for patron use.

4. Provide security for hardware and software

    a. Hardware should be secured physically to the tables and insured against theft and loss.

    b. Software use will be governed by rules promulgated by the Library System and will insure against destruction or copying.

5. Integrate the program into all public libraries so that these resources will be made available to as wide an audience as possible.

    a. Schedule the installation of the hardware to include the neighbor islands from the beginning

    b. Include all islands in the training program

Plans

The Library System will provide the following:

1. Equipment

    a. Microcomputers, monitors, disc drives, and other peripheral equipment from at least two manufacturers

    b. Printers

    c. Furniture designed for computer equipment

    d. Filing cabinets, supplies and other necessary items

2. Software

    a. Computer assisted educational programs for children

    b. Games

    c. Business type programs

    d. Database management systems

3. Computer literacy program

    a. Public seminars to introduce people to the hardware, software, and general maintenance of the equipment

    b. Staff training to equip employees to allow use of the microcomputers by the public with follow-up courses twice a year

c. Periodicals and other materials on new hardware and software to keep the public current with latest developments

4. Public use

a. Use will be in hourly modules with patrons coming in to use the microcomputers by reserving a microcomputer

b. Use of the ULISYS reserve book room procedures to allow reserves for computers

c. Rules and regulations written for microcomputer use, software use, etc.

5. Maintenance

a. Hardware maintenance should be provided by contract with a supplier

b. Software maintenance is a library responsibility. Software will be reviewed and new selections made on a timely basis

6. Supplies

a. The Library System will provide ribbon, ink and the electricity to run the machines

b. Users are expected to pay for paper and their own storage diskettes

The Library System considers the microcomputer project a multi-year program with a goal to place microcomputers in all libraries. The project will begin with the Hawaii State Library and the neighbor island regional libraries. The intention is to install microcomputers in medium-sized libraries on Oahu and follow-up with equipment in smaller libraries to complete the project. An installation schedule will be agreed on with library administrators.

Installation will be done by existing technical staff in the Office of Library Services and the microcomputer vendor. Training will

Set II: Medium libraries

3 microcomputers with peripherals $5,025 ea. x 3	$15,075
Printer	521
Tables $100 ea. x 3	300
Printer stand	100
Chairs $100 ea. x 3	300
Cabinets $30 ea. x 2	60
Maintenance $100/yr. per CPU	300
Supplies (paper, diskettes, ink, etc.)	500
Software	4,000
Periodical subscriptions	1,000
Electrical rennovations	300
Total:	$22,456

Set III: Small libraries

2 microcomputers with peripherals $5,025 ea. x 2	$10,050
Printer	300
Tables $100 ea. x 2	200
Printer stand	100
Chairs $100 ea. x 2	200
Cabinet	30
Maintenance $100/yr. per CPU	200
Supplies (paper, diskettes, ink, etc.)	300
Software	4,000
Periodical subscriptions	300
Electrical rennovations	100
Total:	$15,780

be the responsibility of the Research and Evaluation Services Section for staff and for initial public seminars. There are two librarians in Research and Evaluation Services now serving as trainers in the installation of the automated circulation system. They will move on to training staff in the use of the online catalog and give instruction to librarians and other employees in public training for use of the online catalog.

Costs

The costs for microcomputers depend on the size of libraries: Set I: Large libraries; Set II: Medium libraries; and Set III: Small libraries.

Set I: Large libraries

5 microcomputers with monitors, disc drives, 80 cl cd., 120 col. cd., graphics pad, peripherals, cables, connectors, etc. $5,025 ea. x 5	$25,125
Printers (120 c/sec) letter quality $521 ea. x 2	1,042
Tables $100 ea. x 5	500
Printer stands $100 ea. x 2	200
Chairs $100 ea. x 5	500
Cabinets $30 ea. x 2	60
Maintenance $100/yr. per CPU	500
Supplies (paper, diskettes, ribbons, ink, etc.)	500
Software	4,000
Periodical subscriptions	1,000
Electrical rennovations	1,000
Total:	$34,427

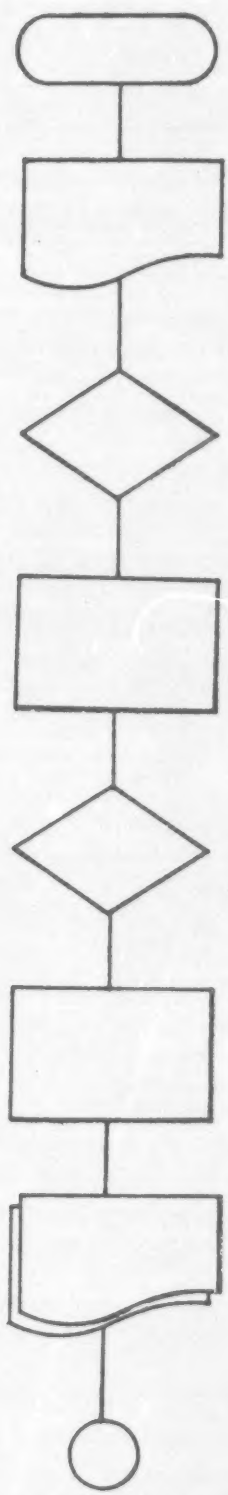
1984/85		
	Salt Lake Moanalua Library	$15,880
1985/86		
	Hawaii State Library	$34,427
	Hawaii Regional Library	34,427
	Maui Regional Library	34,427
	Kauai Regional Library	34,427
	Total:	$137,708
1986/87		
	20 microcomputer sets for medium libraries	$449,120
1987/88		
	23 microcomputer sets for small libraries	$362,940

Evaluation

The Library System intends to survey the users of microcomputers in libraries to:

1. Determine user needs for both hardware and software
2. Determine user satisfaction with the equipment and materials provided

The Office of Library Services staff working on the microcomputer project will form a lay advisory council composed of microcomputer users to give advice and counsel in the installation of this project in the libraries. Evaluation will be based on the recommendations made by this council.



LIBRARY FOR THE BLIND AND PHYSICALLY HANDICAPPED

XI. LIBRARY FOR THE BLIND AND PHYSICALLY HANDICAPPED

Statement of the Problem

The Library for the Blind and Physically Handicapped, 402 Kapahulu Avenue, Honolulu, HI 96815, serves the Pacific area which include the State of Hawaii and the U.S territories in the region. Through the auspices of the National Library Services, a division of the Library of Congress, the Library for the Blind and Physically Handicapped provides equipment and materials for the handicapped. Special services for the blind include braille, talking books, audio equipment for loan, TDD (Telecommunications Devices for the Deaf), materials mailing system for the handicapped unable to use the Library for the Blind and Physically Handicapped, and outlets for talking books in the regional libraries on Hawaii, Maui and Kauai.

Circulation systems for the handicapped include a history file which records materials used by the patron so that a rotation system can be worked out, especially for a mailing service to the shut-in clients. The National Library Service has developed and is testing programs that will automate procedures for libraries for the blind and physically handicapped across the nation. Programs, written for IBM PC clusters, will be provided by the National Library Services. Libraries electing to use the software usually purchase their own microcomputers.

The National Library Services plan to network these microcomputers, provide materials and inventory updates, and in general maintain the program.

Objectives

The objective is for Hawaii's Library for the Blind and Physically Handicapped to join this microcomputer network in order to:

1. Provide better services for its clients.
2. Use the software and other developments made by the National Library Services.
3. Control the bibliographic, circulation and inventory systems.

Accomplishments

The research and development is being done by the National Library Services. Software tests are being conducted in the Missouri Regional Library for the Blind and Physically Handicapped and should be ready for distribution by the end of 1984.

The Office of Library Services has allotted $10,000 in federal Library Services and Construction Act funds for the purchase of IBM PCs in order to begin installation of the system in 1985.

The Technical staff in Research and Evaluation Services will install both hardware and software, train personnel at the Library for the Blind and Physically Handicapped, and monitor the progress of the system.

Costs

1984/1985

IBM PC, printer, hard disk	$10,000

1985/86

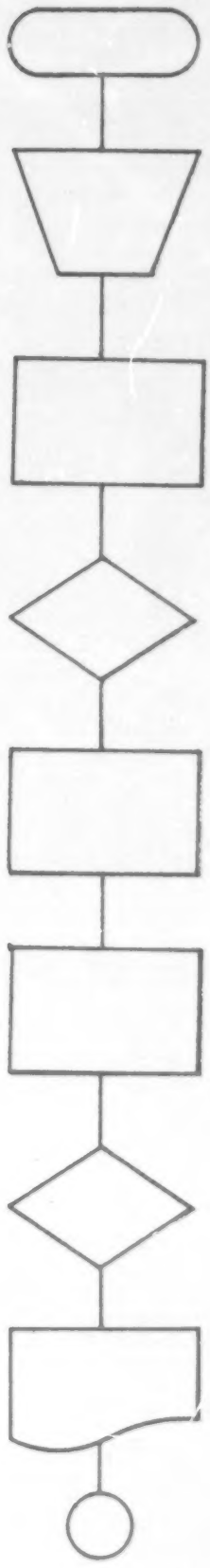
IBM PC, printer, hard disk	$10,000

Maintenance costs are included as part of the ongoing automation costs and expenses associated with the operation of the Library for the Blind and Physically Handicapped.

Evaluation

The new automated system should:

1. Provide control of the circulation system for the blind and handicapped.
2. Provide for networking and interloan from other regional libraries as well as the National Library Service.
3. Control the bibliographic and inventory files for the Library for the Blind and Physically Handicapped.



OFFICE MANAGEMENT

XII. OFFICE MANAGEMENT

Statement of the Problem

New software programs have made it possible to write documents, reports with graphs and charts using the computer. In addition, index to office files showing the location of various documents can be kept on the machine. For offices with larger capacity computers, it is possible to keep the files themselves in machine readable form to be printed out as necessary.

The Office of Library Services wishes to take advantage of the opportunities available to produce better quality work more efficiently. The computer and terminals purchased for circulation can be used for a number of purposes.

Objectives

The objectives are to use:

1. Word processing programs as an aid to report writing.
2. Terminals to send memos, messages, and small reports.
3. Word processing to manage recurring orders, such as the standing order lists, periodicals, etc. not handled by the BIBLIOS HAWAII system.
4. Available programs to automate other office procedures.

Accomplishments

The Office of Library Services has trained two paraprofessionals in the use of word processors and intend to use these two employees as trainers in this field.

In addition, the editing capabilities in the VAX is now being used to write documents. A request has been submitted to the Department of Budget and Finance, Electronic Data Processing Division, to purchase a word processing software for the VAX which includes a speller as well as more sophisticated formatting and editing capabilities.

Plans

1984/1985

Purchase word processing software that can be used on the VAX so that this can be made available to the public libraries.

1985/1986

Train employees in word processing and purchase a graphics package for use on the VAX for reports, graphs, charts, etc.

1986/87-1988/89

Work on developing file management and find improvements for keeping files, report writing, etc.

Costs

1984/1985

Word processing software	$4,500

1985/1986

Graphics and other related software	$9,000

Evaluation

The use of new office management techniques should improve:

1. The quality of reports issued from the Office of Library Services.
2. The writing and updating of annual reports.
3. Charts, graphs and other pictorial aids to reports.
4. Management of files.

ATTACHMENT I

HAWAII STATE LIBRARY SYSTEMS
FROM: LINDA KUDLICH, INFORMATION SPECIALIST
P.O. BOX 2360, HONOLULU, HAWAII 96804 PH: 548-8506

16-Jul-84

**********EVENTS**********

ALL LIBRARIES CLOSED:
ADMISSION DAY, TUESDAY, AUGUST 21

[1]Wednesday,August 01 — HAWAII STATE LIBRARY
478 S. KING ST: FILMS FOR FIVE TO 13 YEAR OLDS.
FREE. NO REGISTRATION REQUIRED. CALL 548-2341

[1]Saturday,August 04 — WAIALUA LIBRARY, 67-068 KEALAHOAHIU ST.
MALASADA DEMONSTRATION BYJOHN PERU. 10:30 AM
FREE NO REGISTRATION REQUIRED. CALL 637-4876

[1]Saturday,August 06 — HAWAII STATE LIBRARY, EDNA ALLYN CHILDREN'S ROOM.
CRAFTS DEMONSTRATION FOR SIX TO 13 YEAR OLDS.
10 AM FREE NO REGISTRATION REQUIRED. CALL
548-2341

Hawaii State Library System NEWSPAPER INDEX MASTER LISTING AS OF 17-Jul-84
PAGE 1

FOR:- ALL

WAIANAE, OAHU

KEY TO FUTURE OF HAW C1:5 A 28-APR-72 [5]
WAIANAE AREA SHOWS THE WAY ED:1 A 05-SEP-72 [11]
US ARMY INSTALLS LAUNCHERS FOR NIKI-HERCULES 31:1 S 17-NOV-72 [6]

WAIKIKI COMMUNITY CENTER

WAIKIKI IMPROVEMENT ASSOCIATION

WAIKIKI, OAHU

STEINER EST TRUSTEES SAY OPPONENTS OF MASTER PLAN HAVE GIVEN OUT MISLEADI
NG INFO ON 1928 BEACH RECLAMATION AGRMT 1:2 A 06-MA
Y-72 [3]
SUP TEVES SEEKS SHOWDOWN VOTE ON PLAN, ACTION DEFERRED 4:4 S 06-MAY-72
[4]
WM K H MAU PLANS $5 MIL DEVELOPMENT AT LAU YEE CHAI SITE 1:5 SA 06-JUN-7
2 [8]
CONTRACT TO HAUL 15,000 YDS OF SAND FOR WAIKIKI TO WALLACE KIYOTA FIRM FO
R $33,000 A 03-JUL-72 [2]
BEACHBOY$ TO SEEK GOV BURNS' AID A9:1 A 03-AUG-72 [7]
PLANS MULTI DECK PARKING LOT B1-3 A 16-SEP-72 [10]
NEW COMDOMINIUM TO GO UP AT DIAMOND HD END C5:6 A 19-OCT-72 [9]

END MASTER LISTING AT 08:47 AM

ATTACHMENT II

FOR:- ALL

WEAPONS
see also CANNONS
NUCLEAR WEAPONS

WEATHER

WEATHER FORECASTING
see also U.S. NATIONAL WEATHER SERVICE

WEATHERWAX, HERBERT

WEAVER, SPENCER FULLERTON, 1911-

WEAVING
see also HAWAII HANDWEAVERS' HUI

WEBB, DEL E., CORP

WEDDINGS
see also MARRIAGE CUSTOMS AND RITES

WEDEMEYER, CHARLIE

WEDEMEYER, HERMAN J

NONBOOK LISTING

```
ENTER BARCODE # OR KEY ?? 1007657214
?                                                    1007657214

          PHONODISK

           OLS:  []

OBR  CBR  LC MD C PRICE ITEM NUMBER VOLUME STATUS      DUE     LST DT #C CPY NOTE
A032 A032 S  PD A     0 1007657214                             840614  2     NOUT


ENTER BARCODE # OR KEY ?? 1004659494                 1007657214
?                                                    1004659494

          PHONOTAPE

           OLS:  []

OBR  CBR  LC MD C PRICE ITEM NUMBER VOLUME STATUS      DUE     LST DT #C CPY NOTE
A032 A032 S  PT A   700 1004659494                           840623  8     NOUT
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ATTACHMENT IV

* Initial microcomputer libraries

Other libraries to be selected as microcomputers become available.

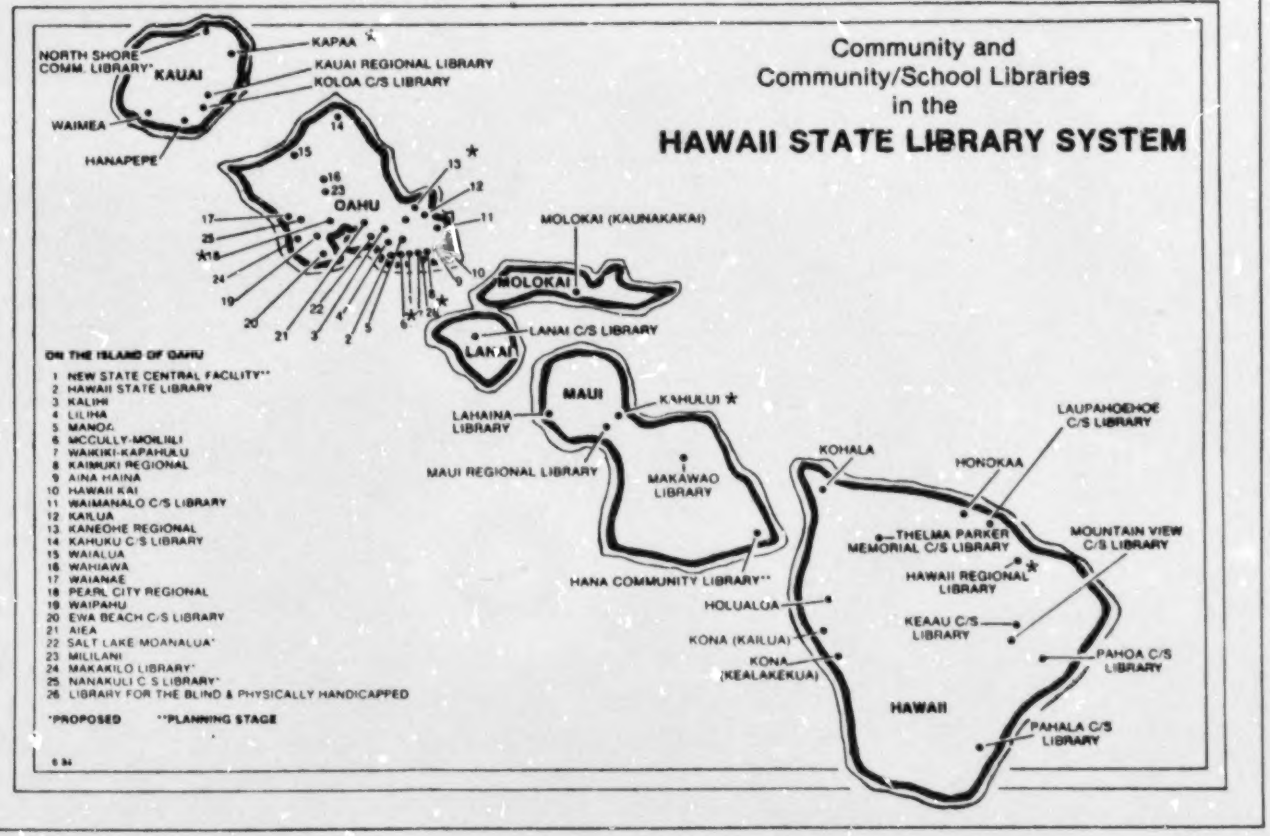
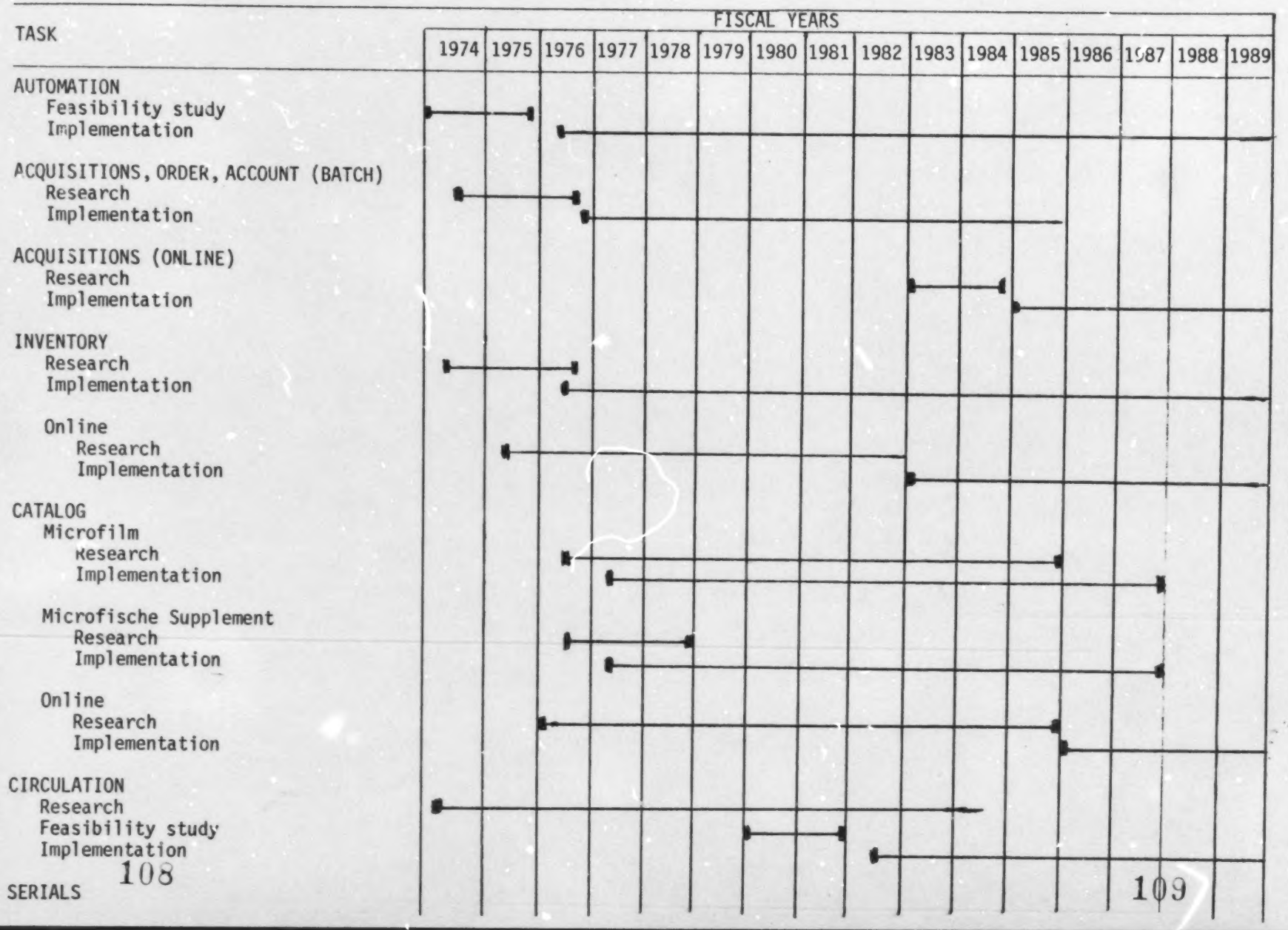


FIGURE 1

BEST COPY AVAILABLE

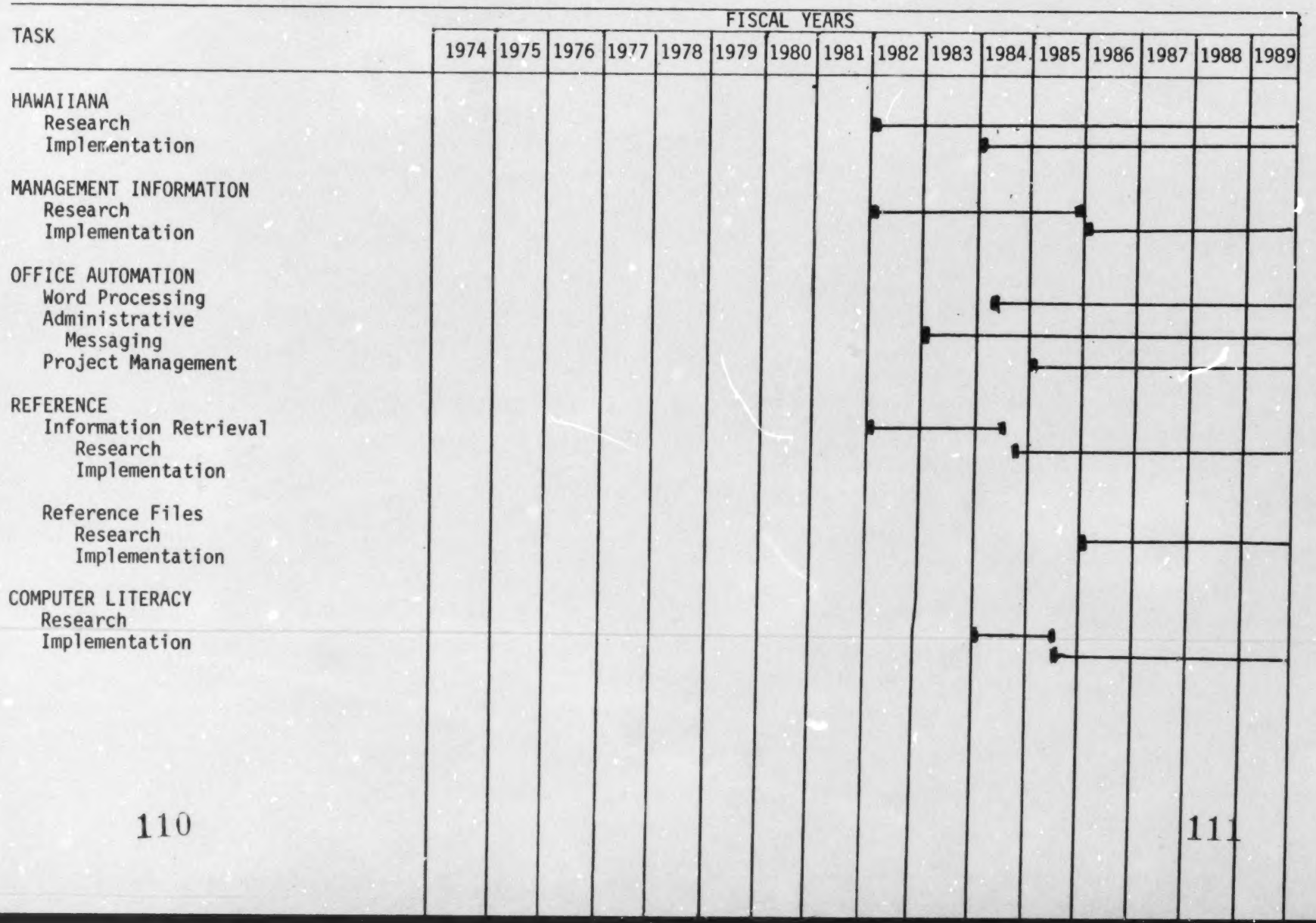
AUTOMATION DEVELOPMENT PLAN FOR PUBLIC LIBRARIES



Implementation Schedule

FIGURE 2a

AUTOMATION DEVELOPMENT PLAN FOR PUBLIC LIBRARIES



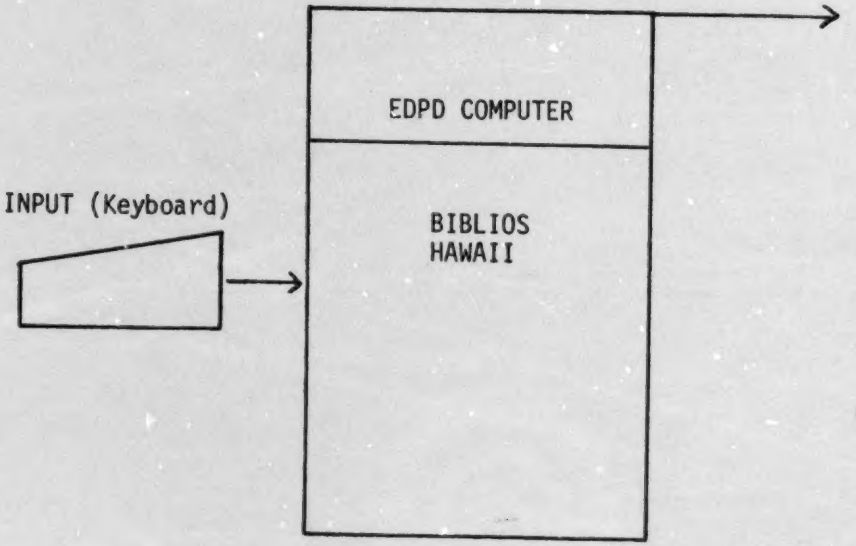
Implementation Schedule

FIGURE 2b

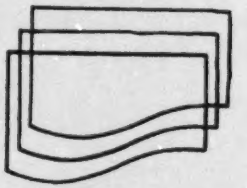
DEPARTMENT OF BUDGET AND FINANCE

ELECTRONIC DATA PROCESSING DIVISION

COMPUTER SERVICES FOR THE OFFICE OF LIBRARY SERVICES



OUTPUT (Print)



1. Purchase orders for book vendors.
2. Order lists for CPC checklist.
3. Accounting reports for CPC.

OUTPUT (Tape)

1. Bibliographic data for ULISYS circulation system.
2. Inventory data for ULISYS circulation system and printing barcodes.
3. Merged bibliographic data and inventory for COM vendor for microfilm catalog.
4. New titles and inventory for microfische updates to the microfilm catalog.

FIGURE 3

OFFICE OF LIBRARY SERVICES

AUTOMATION PROJECT 1984

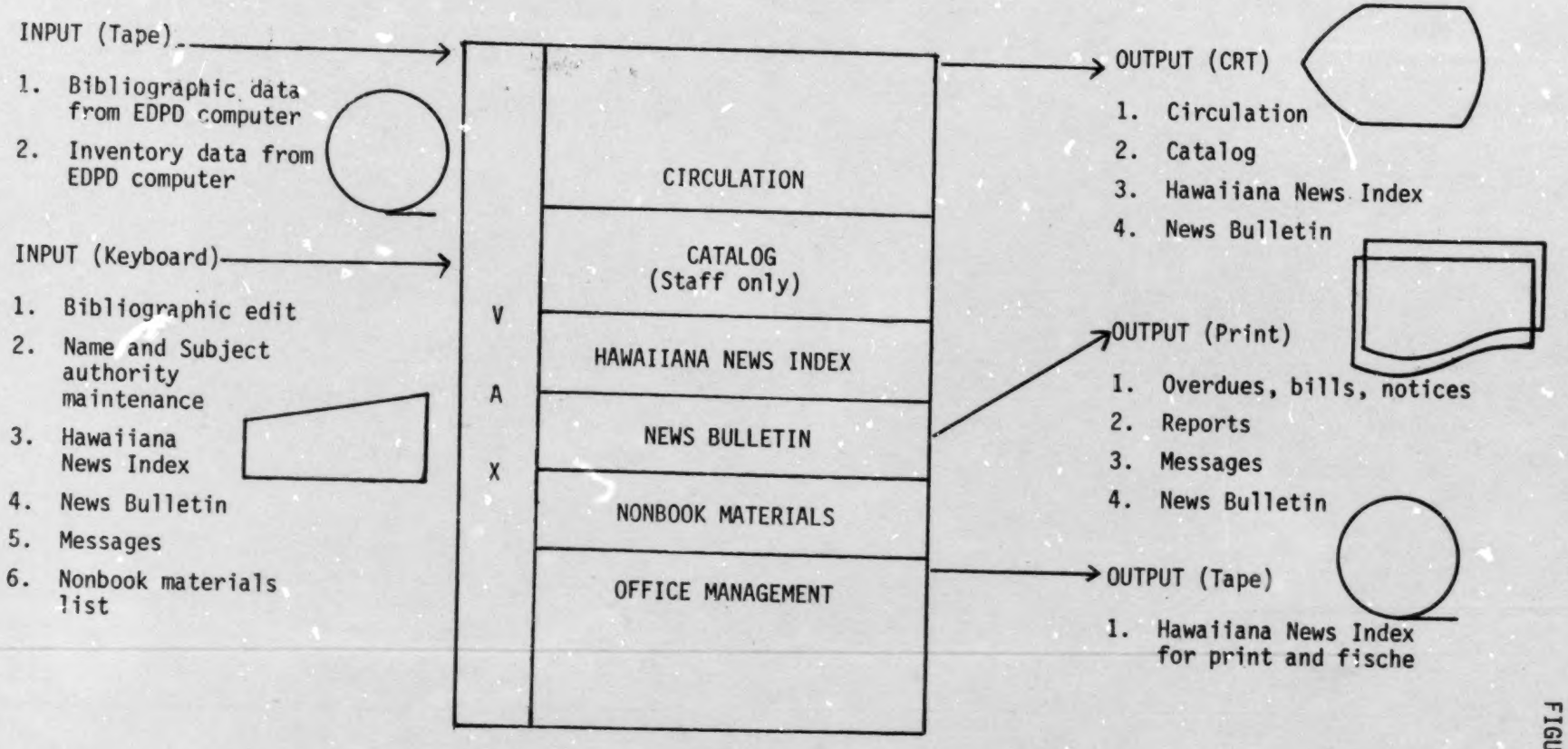


FIGURE 4

OFFICE OF LIBRARY SERVICES

AUTOMATION PROJECT 1985

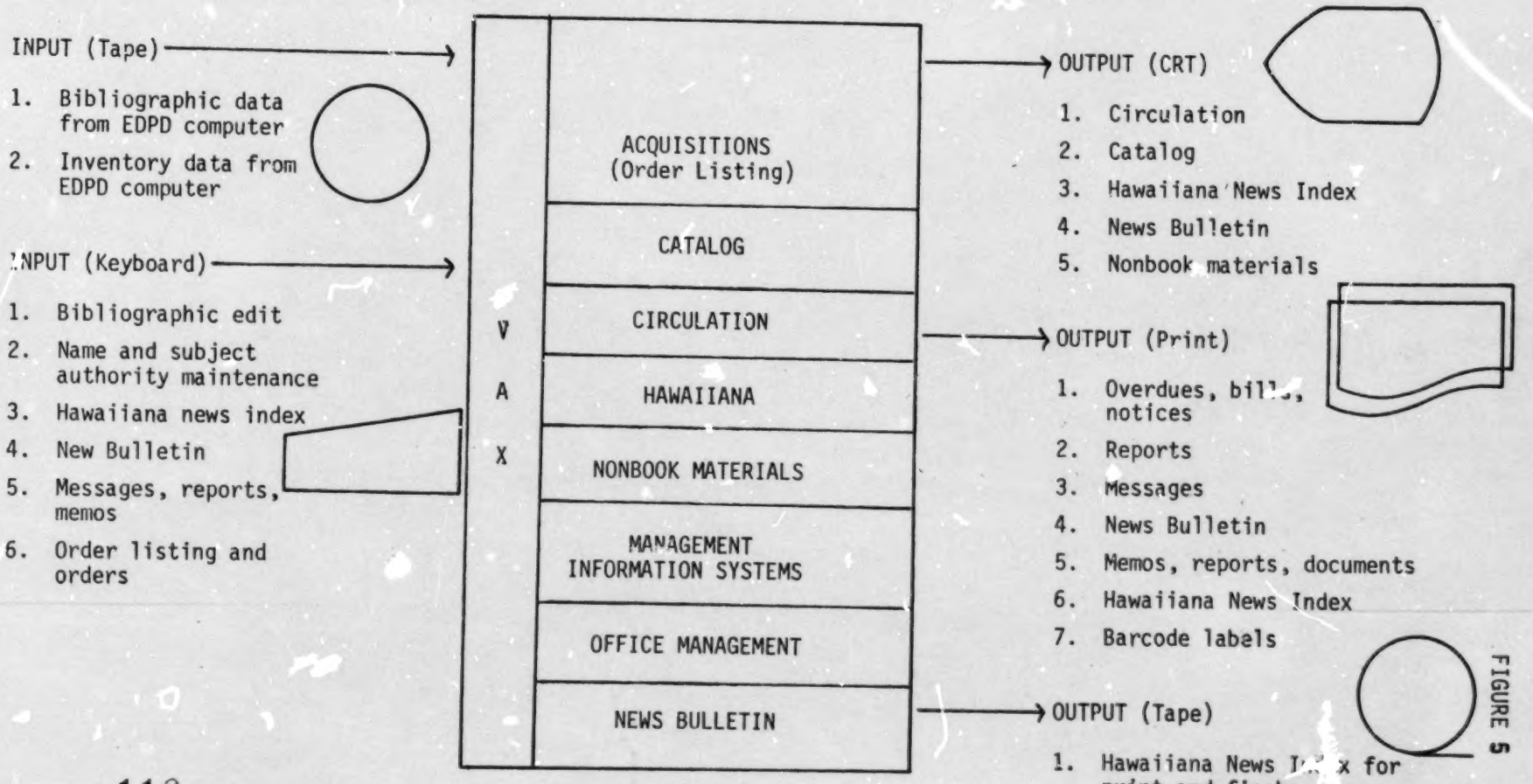


FIGURE 5

OFFICE OF LIBRARY SERVICES

AUTOMATION PROJECT

MICROCOMPUTERS

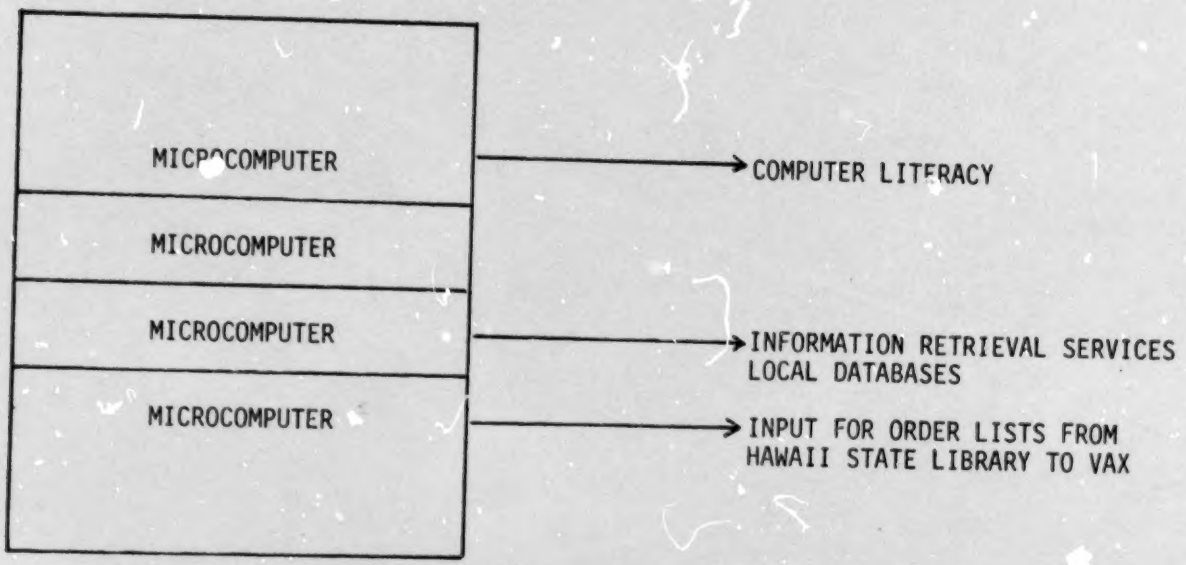


FIGURE 6

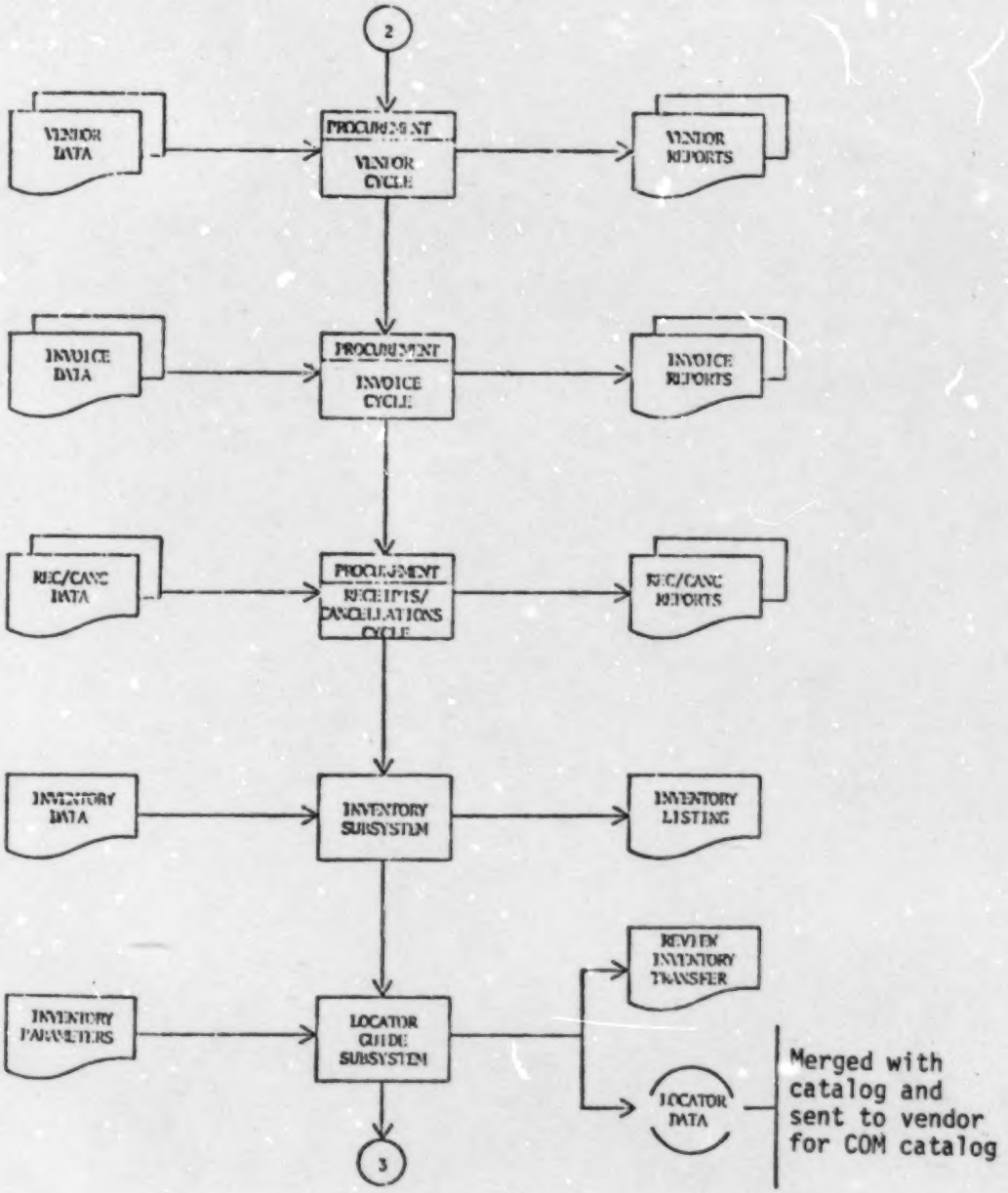
FIGURE 7a

ELECTRONIC DATA PROCESSING DIVISION

TECHNICAL MEMO

Office of Library Services	Automated Library System	LEF	PAGE 2 OF 3

BIBLIOS SYSTEMS FLOW



☐ PROPOSED ☐ ACTUAL

BEST COPY AVAILABLE

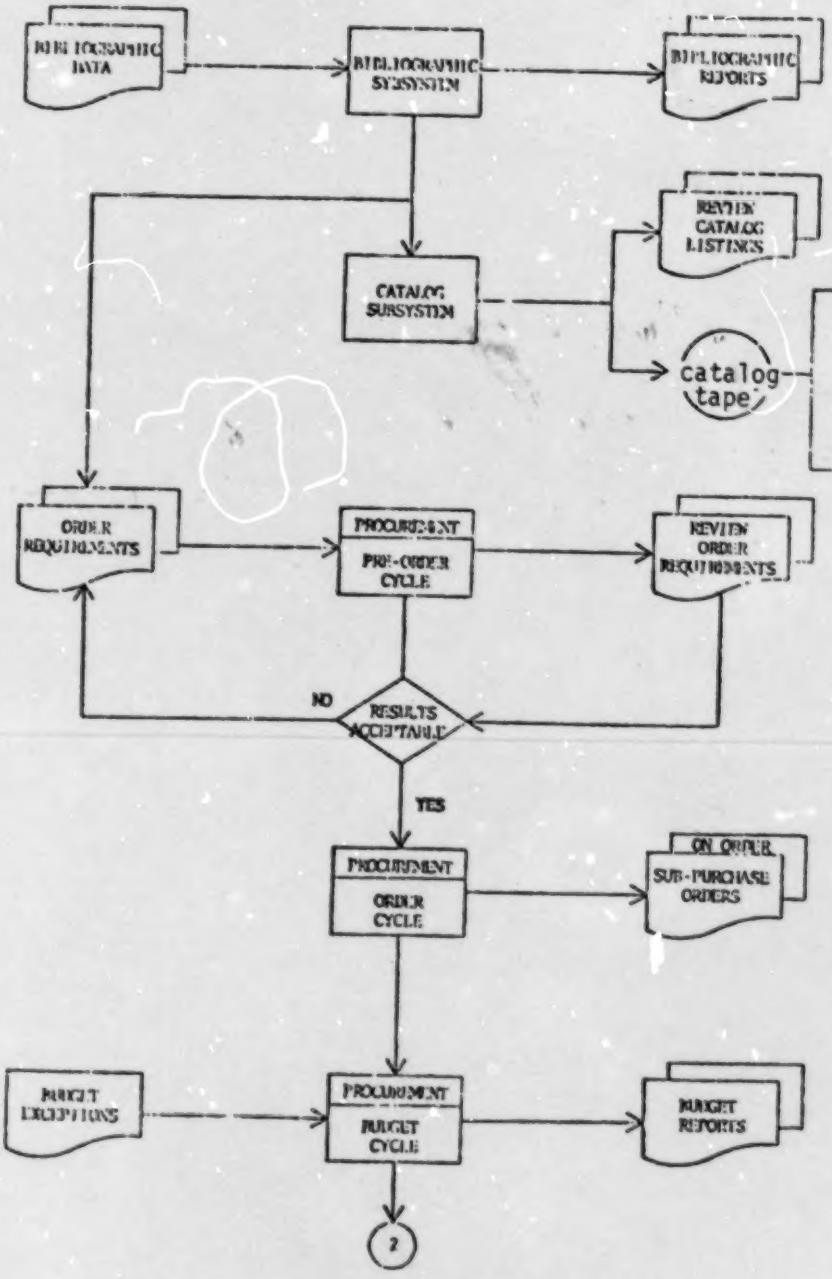
FIGURE 7b

ELECTRONIC DATA PROCESSING DIVISION

TECHNICAL MEMO

Office of Library Services	Automated Library System	EDP	PAGE 1 OF 3

BIBLIOS SYSTEMS FLOW



BEST COPY AVAIL

☐ PROPOSED ☐ ACTUAL

DATE / /

BEST COPY AVAILABLE

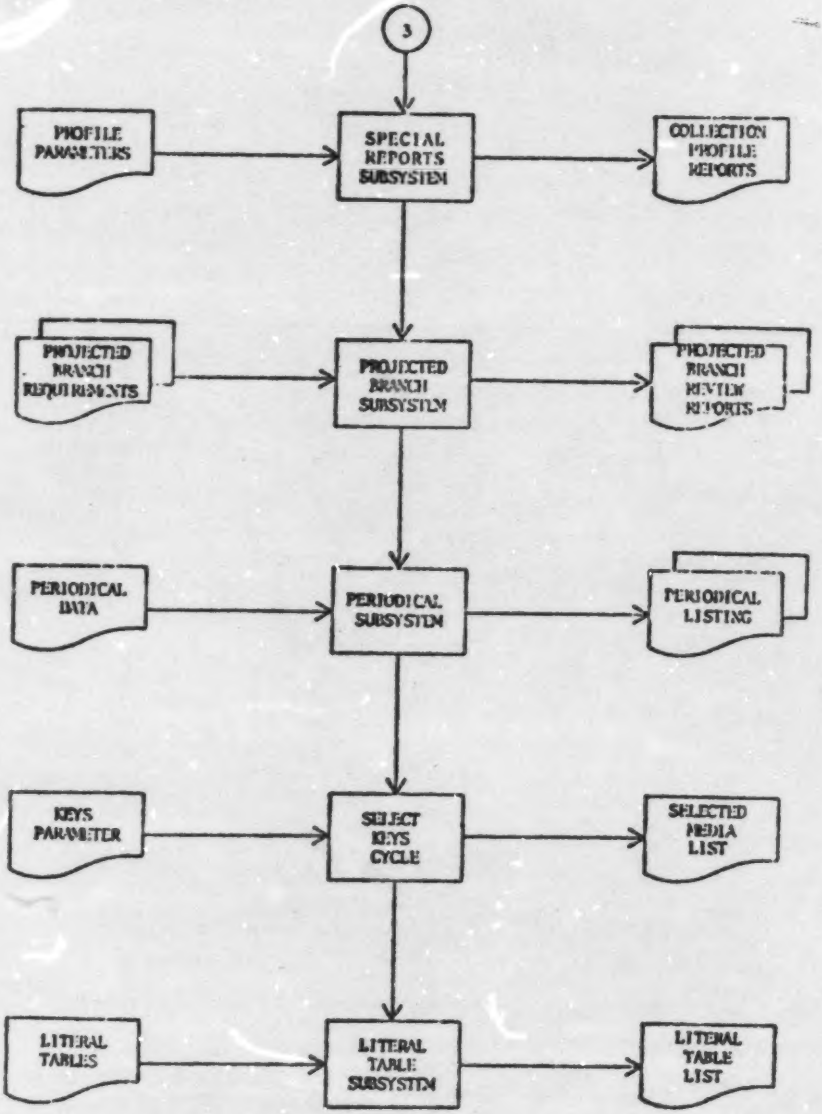
FIGURE 7c

ELECTRONIC DATA PROCESSING DIVISION

TECHNICAL MEMO

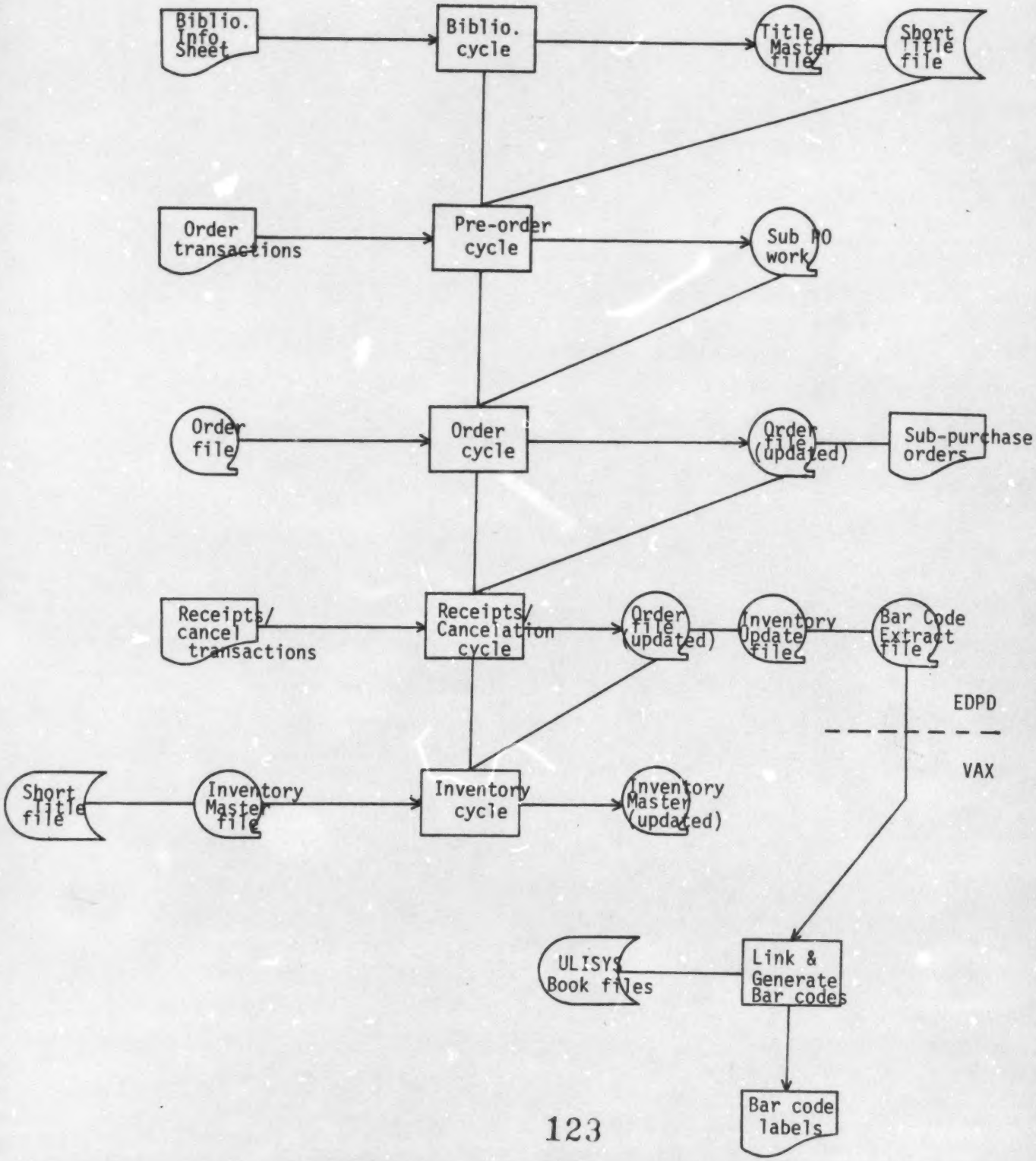
DEPARTMENT	SYSTEM	SYS. CODE	PAGE 3 OF 3
Office of Library Services	Automated Library System	EEF	

PROCEDURAL DESCRIPTION: BIBLIOS SYSTEMS FLOW



☑ PROPOSED ☐ ACTUAL	DOCUMENTED BY	APPROVED BY	DATE / /

FIGURE 8


Biblio. Info. Sheet
Biblio. cycle
Title Master file
Short Title file
Order transactions
Pre-order cycle
Sub PO work
Order file
Order cycle
Order file (updated)
Sub-purchase orders
Receipts/ cancel transactions
Receipts/ Cancelation cycle
Order file (updated)
Inventory Update file
Bar Code Extract file
EDPD
VAX
Short Title file
Inventory Master file
Inventory cycle
Inventory Master (updated)
ULISYS Book files
Link & Generate Bar codes
Bar code labels

Administration
Terminals = 8
Line = point to point, leased
CPC = 12 terminals; No telecommunications

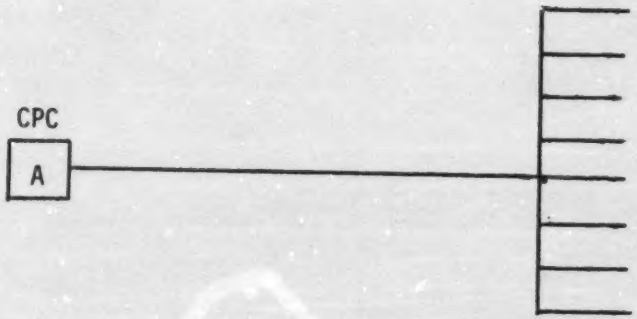
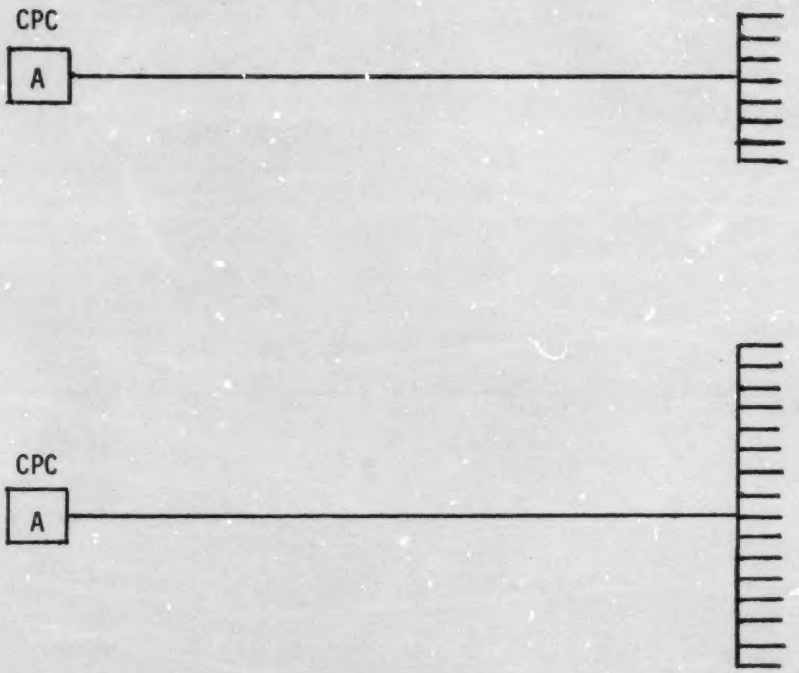


FIGURE 9a



Hawaii State Library

Terminals = 24
Line = point to point (2 lines,
with 8ch & 16ch mux)

FIGURE 9b

Windward Oahu

Terminals = 21
Line = Multipoint

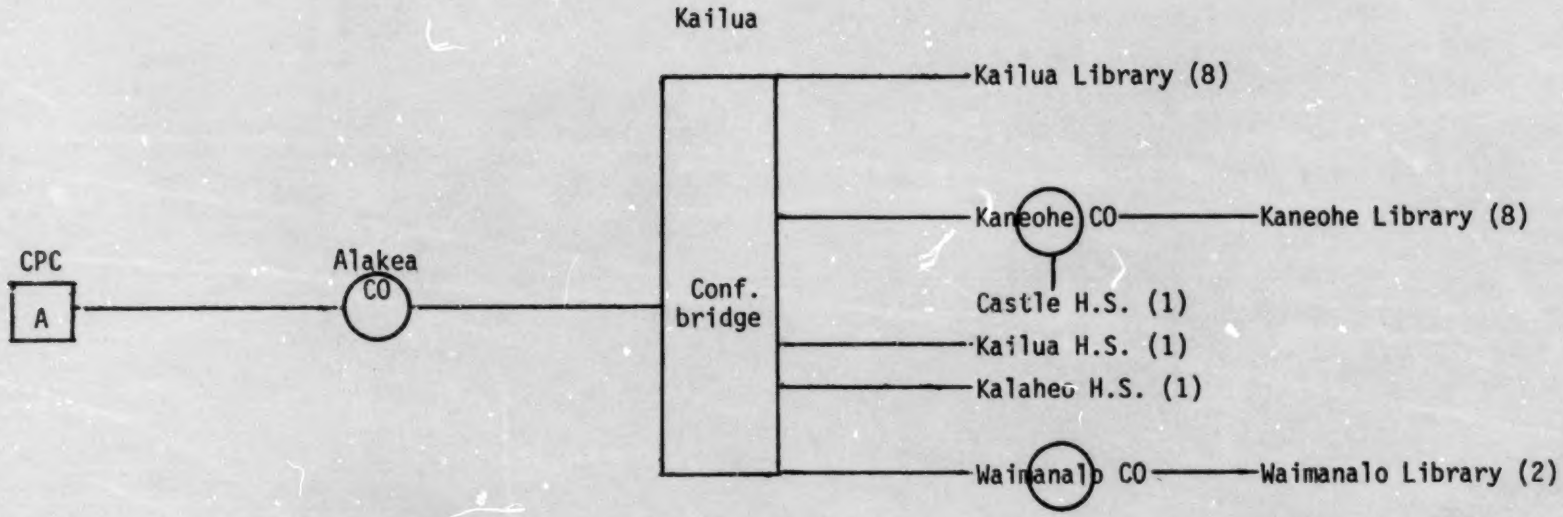


FIGURE 9c

Honolulu line 1

Terminals = 13
Line = Multipoint 16ch mux

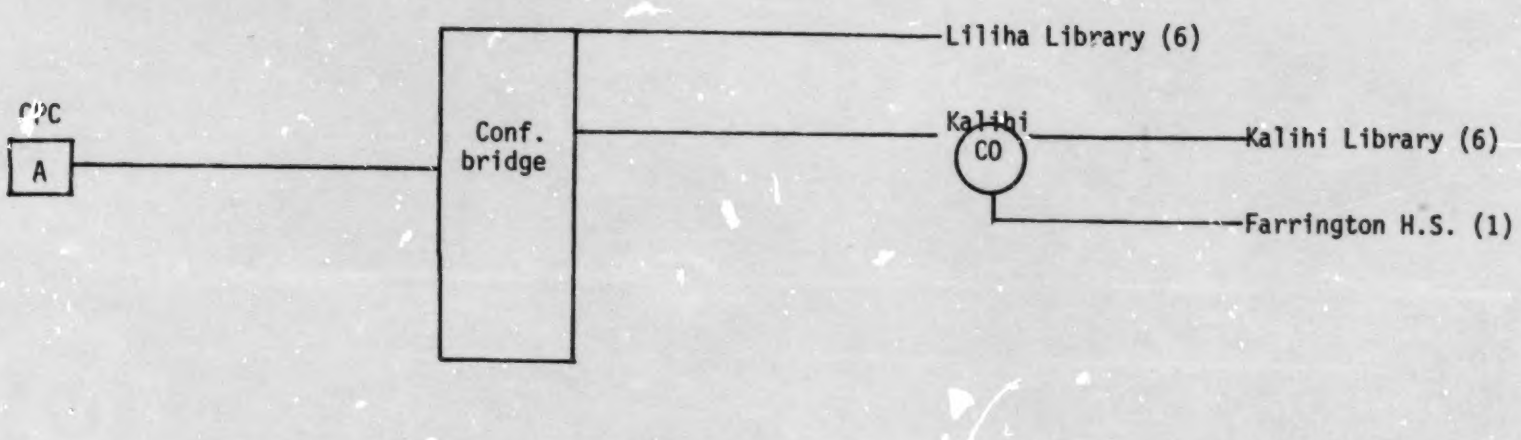


FIGURE 9d

Honolulu Line 2

Terminals = 14
Line = Multipoint

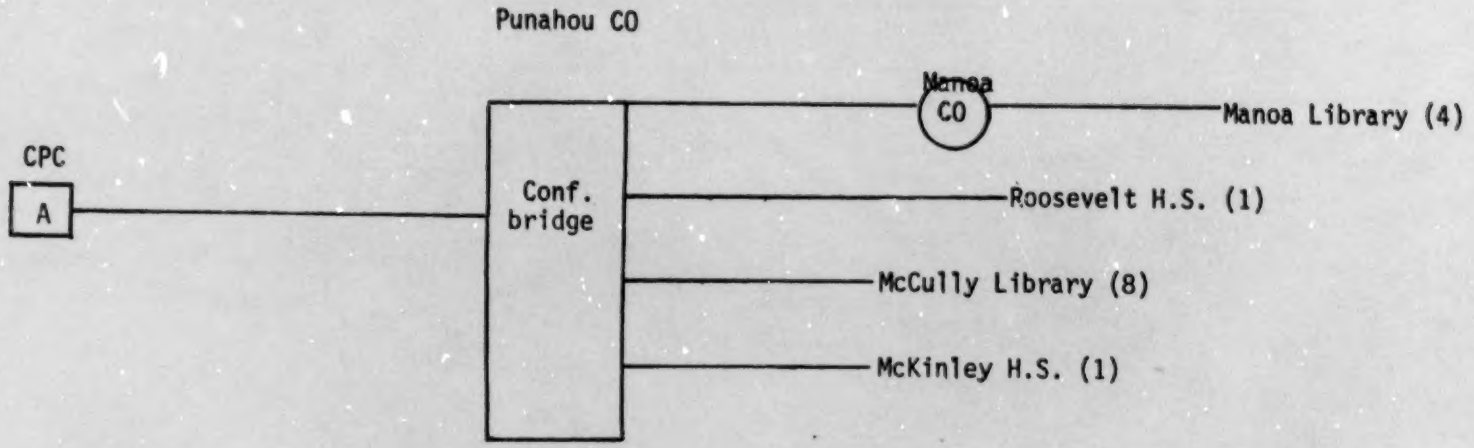


FIGURE 9e

Honolulu Line 3

Terminals = 15
Lines = Multipoint

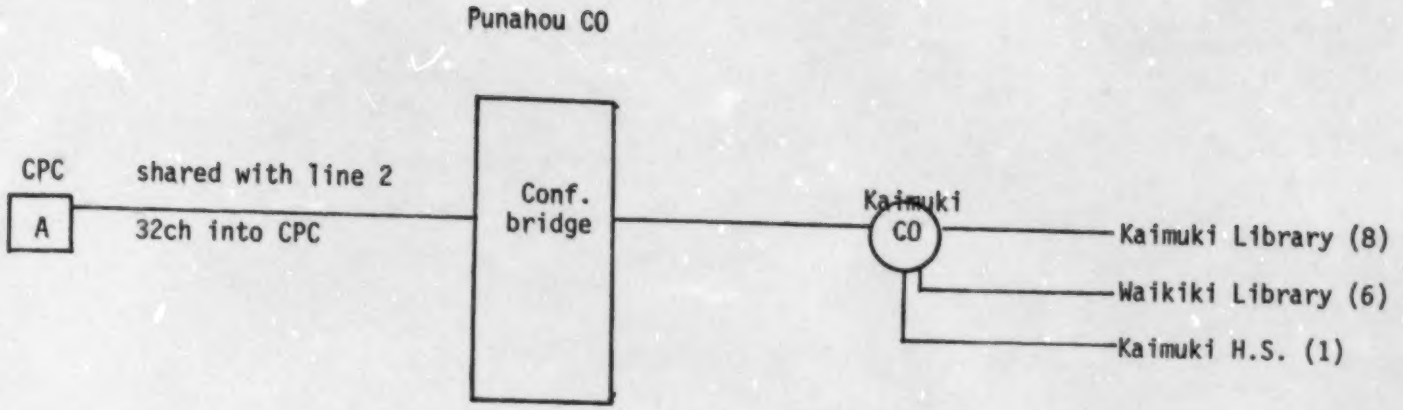


FIGURE 9f

Honolulu Line 4

Terminals = 14
Line = Multipoint

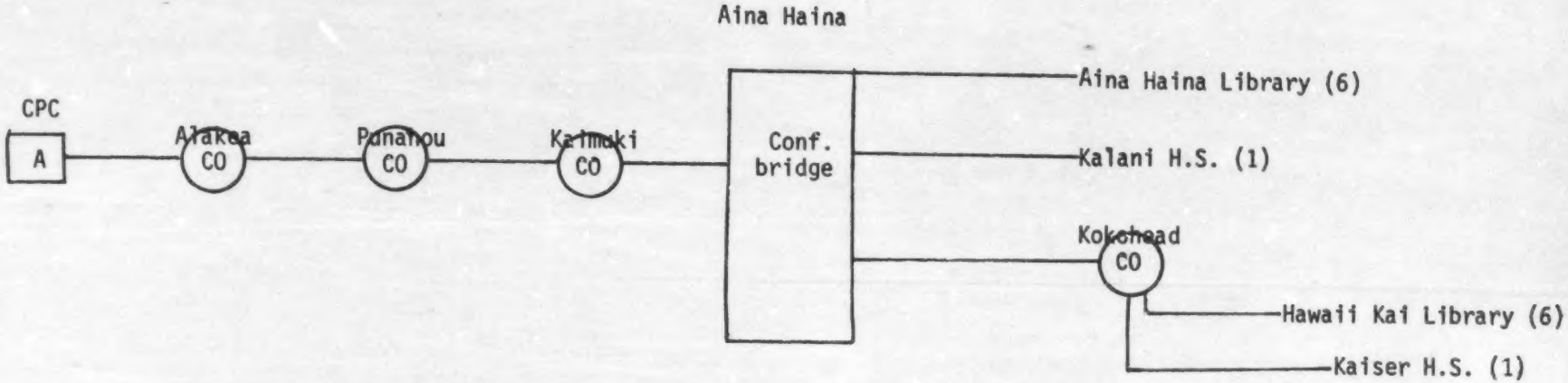


FIGURE 9g

Central

Terminals = 12
Line = Multipoint

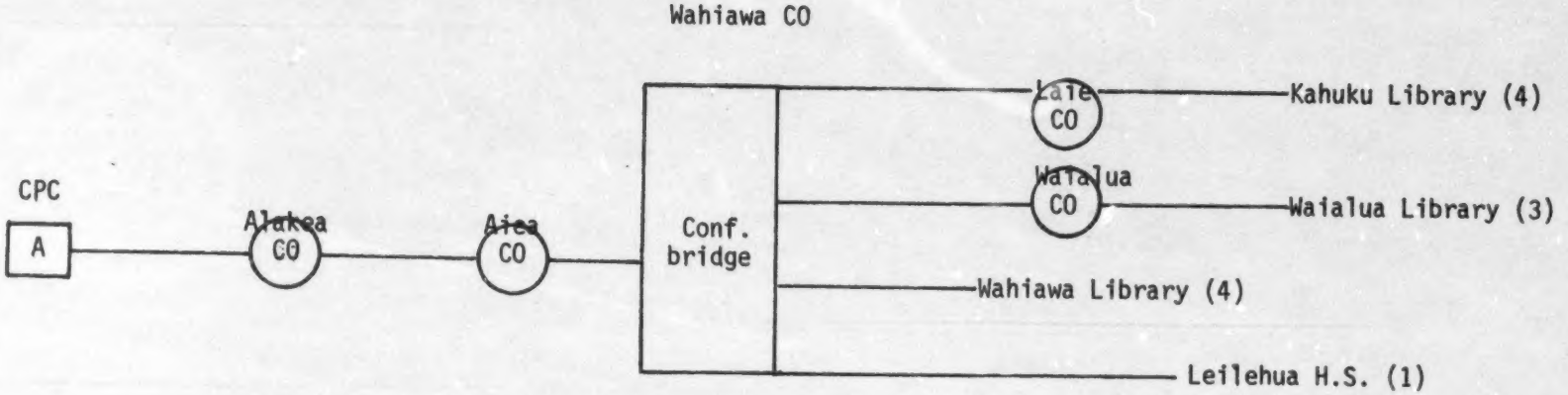


FIGURE 9h

Leeward Line 1

Terminals = 16

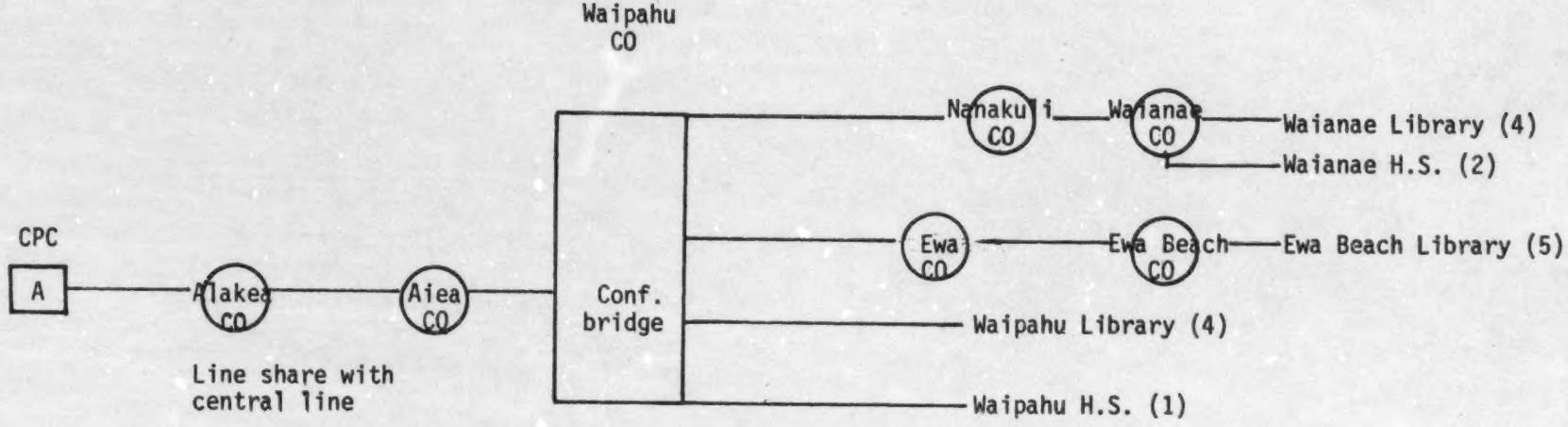


FIGURE 91

Leeward Line 2

Terminals = 29
Line = Multipoint

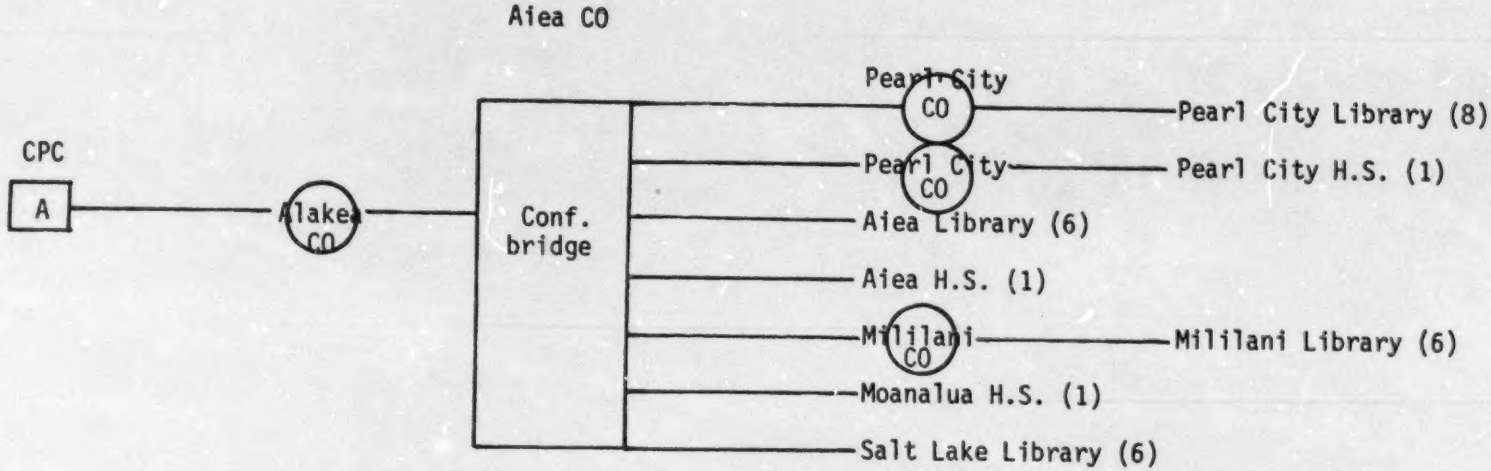


FIGURE 9j

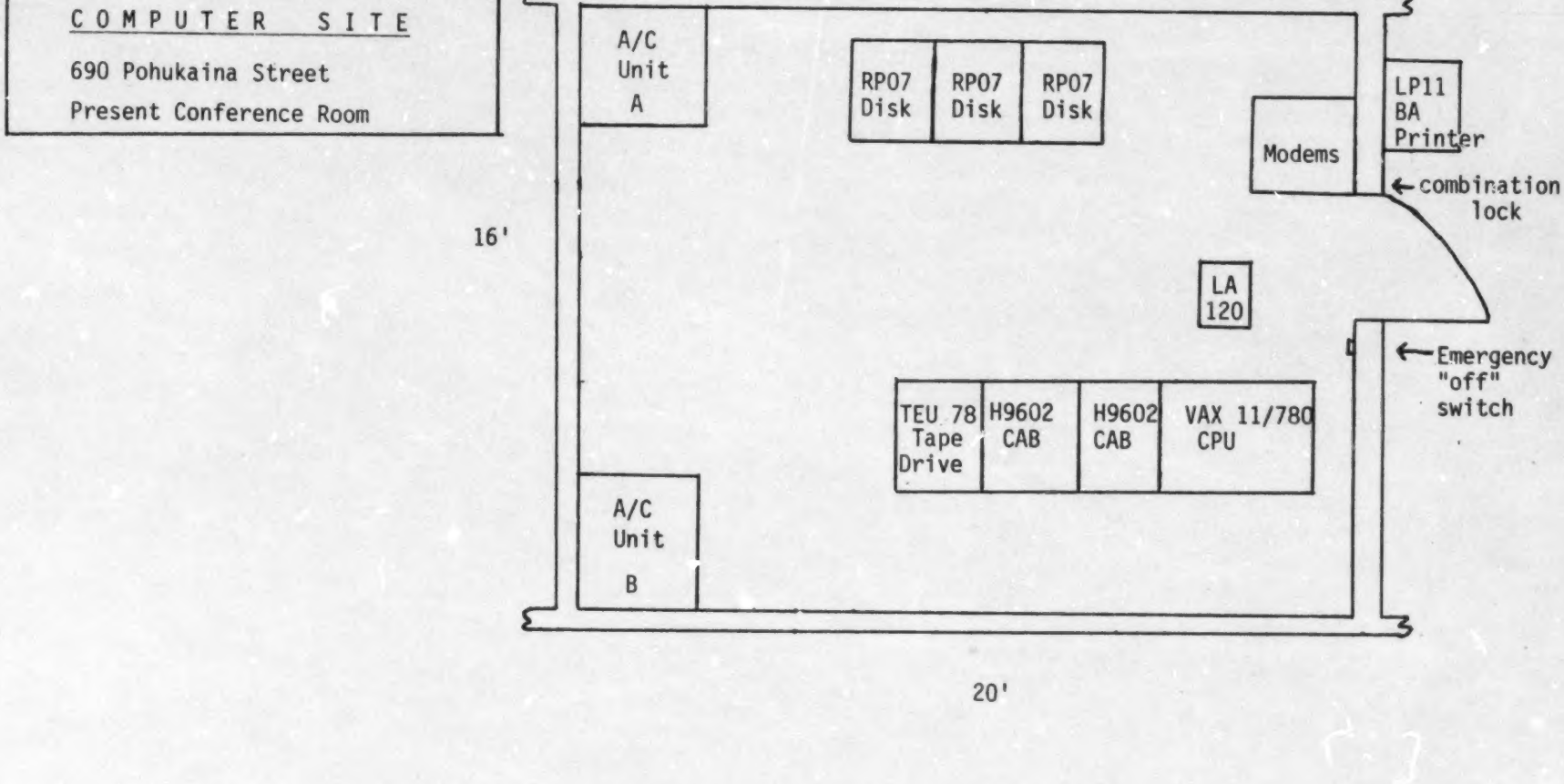

COMPUTER SITE
690 Pohukaina Street
Present Conference Room
A/C Unit A
RP07 Disk
RP07 Disk
RP07 Disk
Modems
LP11 BA Printer
combination lock
16'
LA 120
Emergency "off" switch
TEU 78 Tape Drive
H9602 CAB
H9602 CAB
VAX 11/780 CPU
A/C Unit B
20'

FIGURE 10

CIRCULATION: LIBRARIES AUTOMATED FOR OVER A YEAR

CODE	LIBRARY NAME	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
C038	Kaneohe Reg. Library												
	1982	25042	23252	29303	25466	22419	25499	25972	23665	22442	23127	20717	9613
	1983	Automated		5137	26180	24272	27294	27661	27116	26081	25476	26537	20671
	1984	21256	31957	29079	26194	26317	29306						
C026	Kailua Library												
	1982		17053	19797	18208	17400	19588	18988	16828	17357	17088	15502	15318
	1983	13415		Automated 2994	17503	18029	20238	21406	21001	19735	18468	18627	15272
	1984	16490	21428	21328	19745	19037	23191						
C040	Waimanalo C/S Lib.												
	1982		4152	3801	4797	3793	2511	3674	2757	4229	4589	3423	3846
	1983	4248		Automated 966	4551	4759	3774	3757	3598	4559	5601	5390	3942
	1984	4490	5019	4418	4967	4806	3626						
D001	Hawaii State Library												
	1982				41798	40371	37098	38444	38030	35493	38295	39608	37760
	1983	43000	42247	47857	Automated 72	38312	42208	44902	41128	43827	47468	48764	42604
	1984	36741	61819	56143	49320	46519	50500						
B027	Kaimuki Reg. Library												
	1982					23625	25778	25166	22668	21297	23947	23357	20252
	1983	25405	22798	26760	28415	Automated 54	21160	26039	25811	26891	28637	27103	22927
	1984	19744	36540	28615	26601	24944	26707						
A032	Pearl City Reg. Lib.												
	1982					21900	26095	29096	26017	24319	24453	23750	21676
	1983	25778	24187	27812	23961	6916	Automated 10465	25424	28181	27253	26864	29392	21792
	1984	24042	32456	37142	30467	30832	31858						

TABLE I

NOTE:

Total circulation was taken from the monthly activity reports.

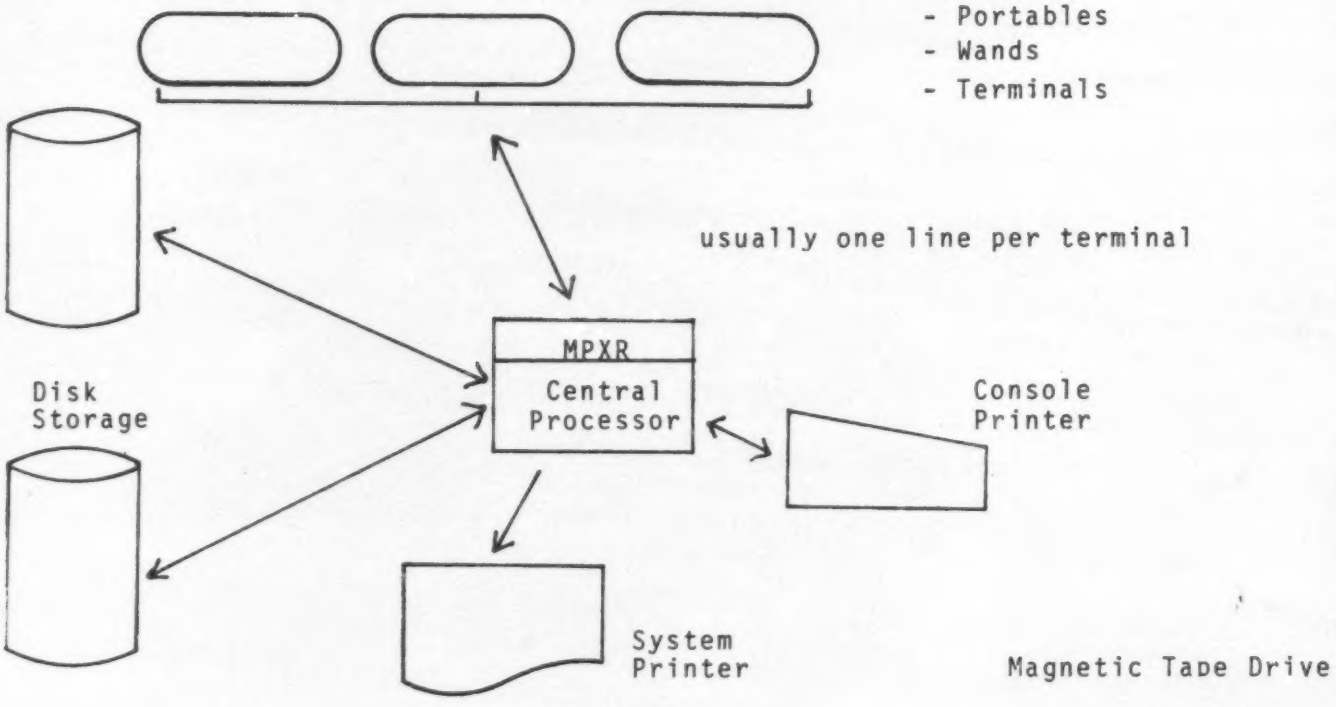
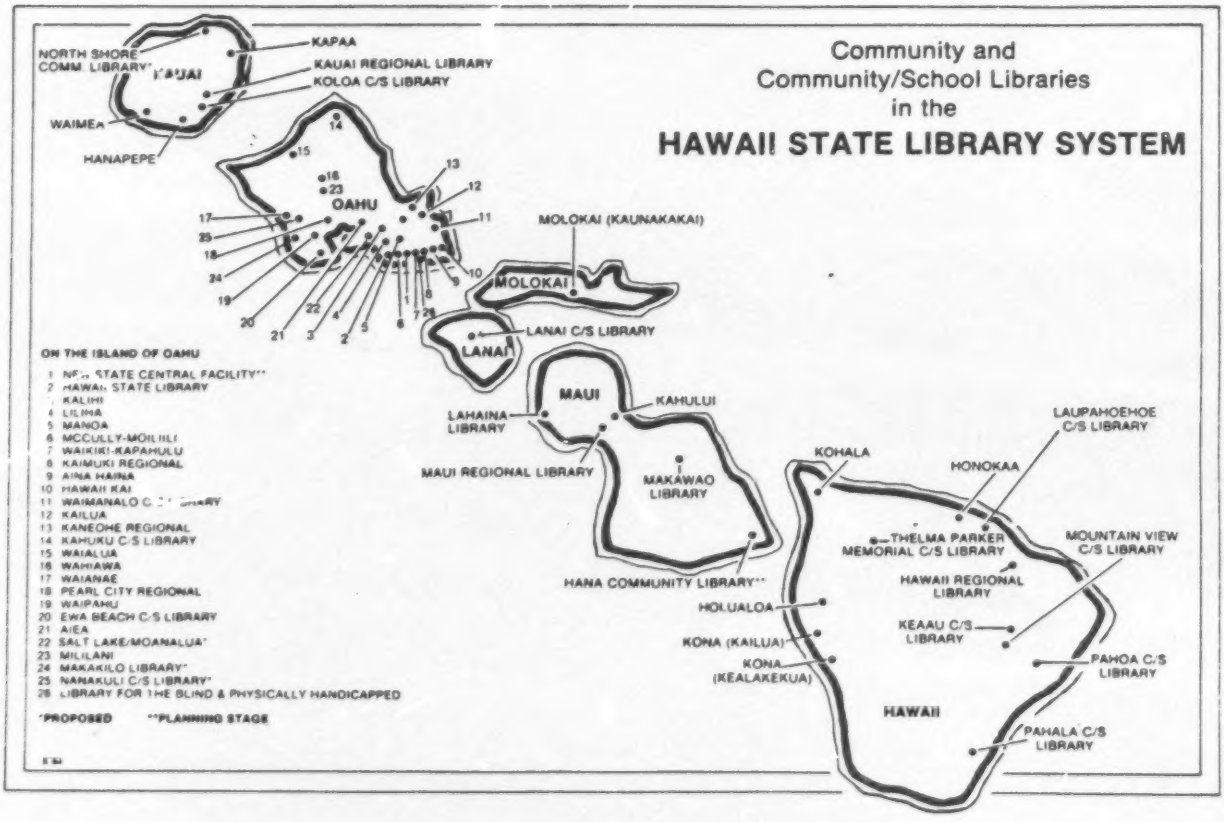
September 1983 statistics were unavailable, and listed numbers are the average of 8/83 and 10/83.

The System was down from January 25 thru February 5, 1984.

January 1984 statistics include January 1 thru February 5, 1984.

February 1984 statistics include February 6 thru 29 activity counts as well as backlogs from January.

TABLE I

BEST COPY AVAILABLE

SYSTEM DIAGRAM